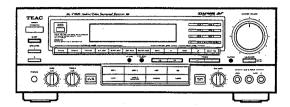
TEAC



SERVICE MANUAL

AG-V3020

Audio/Video Surround Receiver

NOTES

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ♠ A Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.

 [J]: JAPAN [US]: U. S. A. [C]: CANADA [GE]: GENERAL EXPORT

 [E]: EUROPE [UK]: U. K. [A]: AUSTRALIA

1. SPECIFICATIONS

Amplifier Section

Output Power:

Front: F.T.C. Rating: 100 watts RMS per channel minimum, both channels driven into 8 ohms from 20 Hz to 20 kHz with no more than 0.07% total harmonic distortion (U.S.A./Canada)

RMS Power (20 Hz - 20 kHz):

95 watts/8 ohms 0.07 % (Europe)

100 watts/8 ohms 0.07 % (General Export)

DIN power: 115 watts/8 ohms (Europe)

Rear: 17 watts RMS per channel minimum, both channels driven into 8 ohms from 80 Hz to 7 kHz with no more than 0.7% total harmonic distortion.

Center: 28 watts RMS minimum, driven into 8 ohms from 50 Hz to 15 kHz with no more than 0.07% total harmonic distortion.

Total Harmonic Distortion (Front):

0.01% (at 100 watts, 1 kHz)

Intermodulation Distortion (Front):

0.02% (at 100 watts)

Surround Mode:

Delay Time:

DOLBY PRO LOGIC: 15 to 30 ms (5 ms steps)

THEATER: 5 to 40 ms (5 ms steps) STADIUM: 5 to 40 ms (5 ms steps)

Input Sensitivity/impedance:

PHONO (MM): 2.5 mV/47 k ohms

LINE*: 150 mV/47 k ohms

Frequency Response:

30 Hz - 20 kHz ±1 dB (PHONO) 10 Hz - 60 kHz -3 dB (LINE*)

Signal-to-Noise Ratio:

PHONO (MM): 73 dB

LINE*: 94 dB

Tone Control:

Bass: ±10 dB at 100 Hz Treble: ±10 dB at 10 kHz

FM Tuner Section

(without notes 98.1 MHz 65 dBf)

Tuning Range:

87.5 MHz - 108.0 MHz (100 kHz steps)

(U.S.A./Canada)

87.50 MHz - 108.00 MHz (50 kHz steps)

(Europe/General Export)

Usable Sensitivity (IHF):

Mono: 10.8 dBf (U.S.A./Canada/General Export)

Mono: 13 dBf (Europe)

50 dB Quieting Sensitivity: Mono: 18 dBf/Stereo 38 dBf

(U.S.A./Canada/General Export)

Mono: 20 dBf/Stereo 42 dBf (Europe)

Capture Ratio:

1.5 dB (U.S.A./Canada)

2.5 dB (Europe/General Export)

Image Rejection Ratio:

55 dB (U.S.A./Canada/General Export)

80 dB (Europe)

AM Suppression Ratio: 60 dB

RF Intermodulation: 65 dB

Total Harmonic Distortion (1 kHz):

Mono: 0.2%/Stereo 0.4%

Frequency Response:

30 Hz - 15 kHz ±1 dB

Stereo Separation (1 kHz): 45 dB

Signal-to-Noise Ratio:

Mono: 78 dB/Stereo 70 dB

AM Tuner Section

Tuning Range:

530 kHz - 1,710 kHz (10-kHz steps)

(U.S.A./Canada)

522 kHz - 1,611 kHz (9-kHz steps)

(Europe/General Export)

Usable Sensitivity:

52 dB/m

Total Harmonic Distortion:

0.6% at 85 dB/m

Signal-to-Noise Ratio:

50 dB at 85 dB/m

Video Section

Input Sensitivity/Impedance:

1.0 Vp-p/75 ohms

Output Level/Impedance: 1.0 Vp-p/75 ohms Frequency Response: 5 to 6 MHz (-3 dB)

Signal-to-Noise Ratio: 60 dB (1 kHz, HPF IN)

General

Power Requirements:

120 V AC, 60 Hz (U.S.A./Canada)

230 V AC, 50 Hz (Europe)

120/230 V AC, 50/60 Hz (General Export)

Power Consumption:

2.7 A (U.S.A./Canada)

620 W (Europe/General Export)

AC Outlet:

Switched x 2, Total 100 W max. (1 A max.)

(U.S.A./Canada)

Switched x 1, 100 W max.

(Europe/General Export)

Dimensions (WxHxD): 435 x 156 x 380 mm

 $(17-1/8" \times 6-1/8" \times 14-15/16")$

Weight (net): 13 kg (28-11/16 lbs.)

Standard Accessories:

AM Loop Antenna x 1

FM "T" Type Antenna x 1

Remote Control Unit (UR-404) x 1

Battery ("AA", "R06", SUM-3) x 2

Matching Transformer (300 ohms to 75 ohms)

(Europe) x 1

AC Plug Adapter (General Export) x 1

- * LINE means CD, VCR 1, VCR 2, VDP, TAPE 1, and TAPE 2.
- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.

2. ADJUSTMENTS AND CHECKS

2-1. AM OSC, TRACKING ADJUSTMENT

- 1. Set the unit to "AM" position.
- 2. Connect the DC Voltmeter to TP1 in Fig. 2-4.
- 3. Place the radio frequency display to 530 kHz (522 kHz for General Export).
- 4. Adjust L102 core until DC Voltmeter indicates DC 1.2V ± 0.2V.
- 5. Place the radio frequency display to 1,710 kHz (1,611 kHz for General Export).
- 6. Adjust TC102 until DC Voltmeter indicates DC 9.0V ± 0.2V (DC 8.6V ± 0.2V for General Export).
- 7. Repeat step 3, 4, 5, 6.

2-2. AM IF ADJUSTMENT

- 1. Test equipment connections are shown in Fig. 2-1.
- 2. Set the unit to "AM" position.
- 3. Place the radio frequency and signal generator setting to 1,000 kHz (999 kHz for General Export).
- 4. Adjust L105 for maximum output.

2-3. AM RF ADJUSTMENT

- 1. Test equipment connections are shown in Fig. 2-1.
- 2. Set the unit to "AM" position.
- 3. Place radio frequency and signal generator setting to 1,400 kHz (1,404 kHz for General Export).
- 4. Adjust TC101 for maximum output.
- 5. Place radio frequency and signal generator setting to 600 kHz (603 kHz for General Export).
- 6. Adjust L101 for maximum output.
- 7. Repeat steps 3, 4, 5, 6.

AM SIGNAL GENERATOR CONDITION

Modulation ______30% - Modulation frequency ______400 Hz

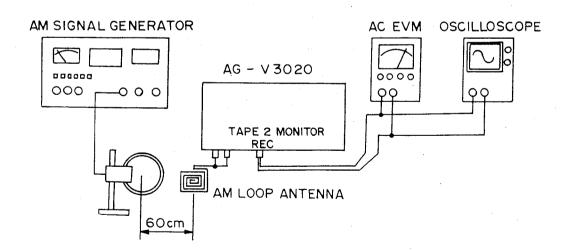


Fig. 2-1

2-4. AM TUNED LED ON LEVEL ADJUSTMENT

- 1. Place radio frequency and signal generator setting to 1,000 kHz (999 kHz for General Export).
- 2. Adjust VR101 so that "TUNED" appears in the display.

AM SIGNAL GENERATOR CONDITION

Output level ______60 dB/m

2-5. FM MONO IF DISTORTION ADJUSTMENT

- 1. Test equipment connections are shown in Fig. 2-2.
- 2. Set the unit to "FM" position.
- 3. Place the radio frequency and signal generator setting to 98.1 MHz.
- 4. Adjust L103 core until DC Voltmeter indicates DC 0 ± 50 mV.
- 5. Adjust L104 core until Distortion Analyzer range indicates minimum output.
- 6. Repeat step 4, 5.

FM SIGNAL GENERATOR CONDITION

Modulation ______100% (75 kHz dev.)

Modulation frequency _____1 kHz

Output level _____65 dBf

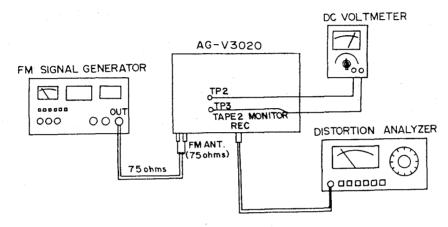


Fig. 2-2

2-6. FM STEREO SEPARATING ADJUSTMENT

- 1. Test equipment connections are shown in Fig. 2-3.
- 2. Set the unit to "FM STEREO" position.
- 3. Place the radio frequency and signal generator setting to 98.1 MHz.
- 4. Adjust VR103 so that R channel output is minimized when stereo modulator is in "L" (L channel modulation) mode.
- 5. Readjust VR103 so that L channel output is minimized when stereo modulator is in "R" (R channel modulation) mode.

FM SIGNAL GENERATOR CONDITION

Modulation _______"L" mode or "R" mode 45%, Pilot 10%

Modulation frequency _______1 kHz, Pilot (19 kHz)

Output level _______65 dBf

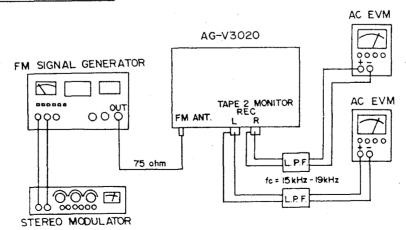


Fig. 2-3

2-7. FM TUNED LED ON LEVEL ADJUSTMENT

- Place the radio frequency and signal generator setting to 98.1 MHz.
 Adjust VR102 so that "TUNED" appears in the display.

FM SIGNAL GENERATOR CONDITION

Output level 28 dBf

2-8. ADJUSTMENTS AND TEST POINTS

USA/CANADA/General Export

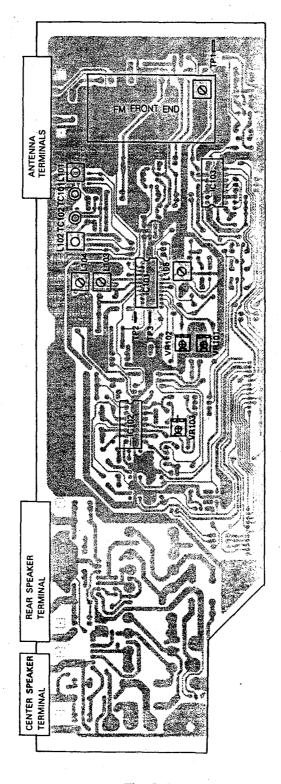
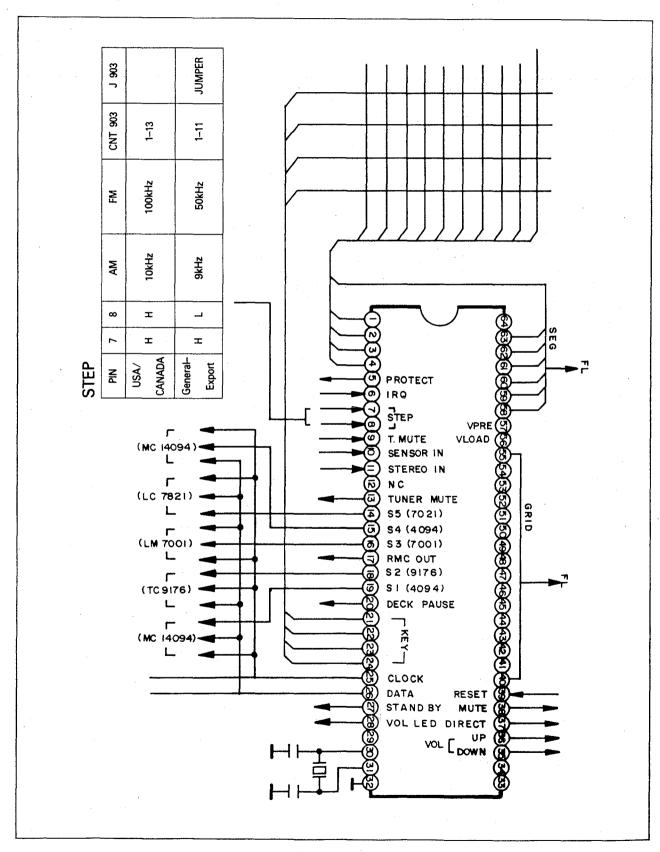


Fig. 2-4

3. MICROCOMPUTER (IC901: µPD75216)

3-1. Pin Assignment

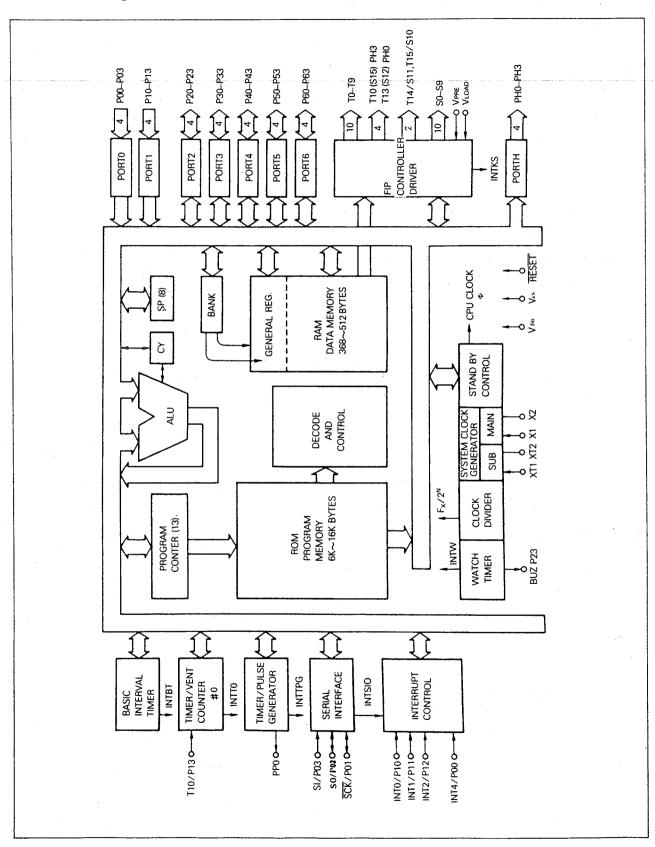


3-2. Functions Assigned

NO.	TERMINAL	OPERATING CHART	REMARKS		NO.	TERMINAL
1	KEY MATRIX OUTPUT		S3		33	No
2	KEY MATRIX OUTPUT		S2		34	Nc
3	KEY MATRIX OUTPUT		S1		35	DOWN(VOL)
4	KEY MATRIX OUTPUT	·	S0		36	UP(VOL)
5	PROTECT		P01		37	DIRECT
6	IRQ		P02		38	MUTE
7	STEP CHANGE		P03		39	RESET
8	STEP CHANGE		P04		40	то
9	TUNED		P10		41	Т1
10	SENSOR IN		P11		42	т2
11	STEREO IN		P12		43	Т3
12	No		P13		44	т4
13	TUNER MUTE		P20		45	Т5
14	STROBE		LC7821		46	т6 .
15	STROBE		MC14094		47	17
16	STROBE (PLL)		LM7001		48	т8
17	RMC OUT				49	т9
18	STROBE		TC9176		50	S15
19	STROBE		MC14094		51	S14
20	DECK PAUSE	·			52	S13
21	KEY MATRIX INPUT				53	S12
22	KEY MATRIX INPUT				54	S11
23	KEY MATRIX INPUT			gia	55	S10
24	KEY MATRIX INPUT				56	VLOAD
25	CLOCK			¥¢.	57	VPRE
26	DATA			1	58	S9
27	STAND BY				59	S8
28	VOL LED				60	S7
29	Nc				61	S6
30	X1		4.19MHz		62	S5
31	xo		4.19MHz		63	S4
32	Vss				64	VDD

NO.	TERMINAL	OPERATING CHART	REMARKS
33	No		·
34	Nc	<u>. </u>	
35	DOWN(VOL)		
36	UP(VOL)		
37	DIRECT	-	
38	MUTE		
39	RESET		
40	то		GRID _.
41	Т1		GRID
42	т2		GRID
43	Т3		GRID
44	T4		GRID
45	Т5	·	GRID
46	т6		GRID
47	ח		GRID
48	т8		GRID
49	т9	1.	GRID
50	S15		SEGMENT
51	S14		SEGMENT
52	S13		SEGMENT
53	S12 ·		SEGMENT
54	S11		SEGMENT
55	S10		SEGMENT
56	VLOAD		
57	VPRE		
58	S9		SEGMENT
59	S8		SEGMENT
60	S7		SEGMENT
61	S6		SEGMENT
62	S5		SEGMENT
63	S4		SEGMENT
64	VDÐ		+5V

3-3. Block Diagram

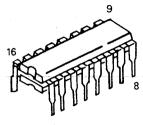


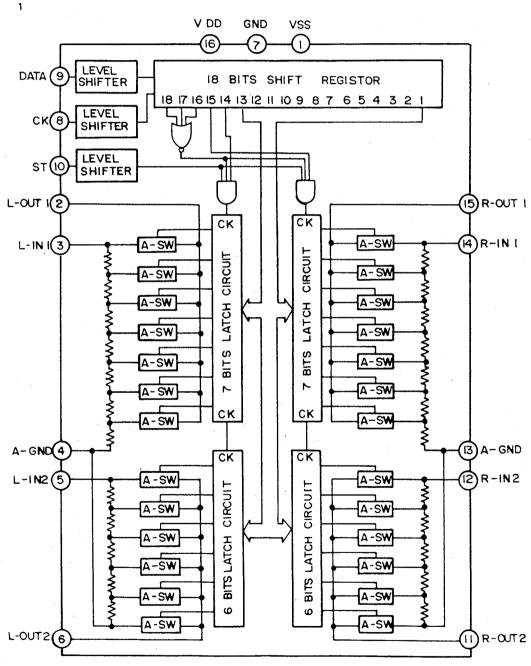
3-4. Key Matrix

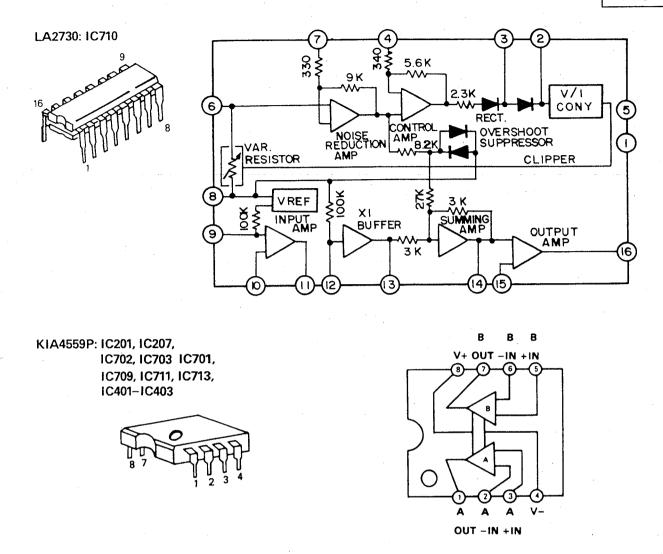
	y	>		S11
CENTER DOWN	CENTER UP	CENTER MODE	TEST TONE	S10
VDP /	PRESET SCAN	FM MODE	AUTO/ MANUAL	S9
VCR 2	VCR 1 REC	SOURCE	MEMORY	\$8
VCR 1	THEATER	3 CH	DELAY TIME	S7
TAPE 1	AM /	FM	TUNE DOWN	S6
REAR UP	STADIUM	OFF	REAR DOWN	S5
Y	SLEEP	POWER	DOLBY PRO LOGIC	S4
TAPE (2)	1 /	TUNE UP	6	S3
PHONO /	мите	5	10	S2
CD /	3	4	9	S1
TUNER	2	7	8	S0
	P63	P62	P61	P60

4. IC BLOCK DIAGRAMS

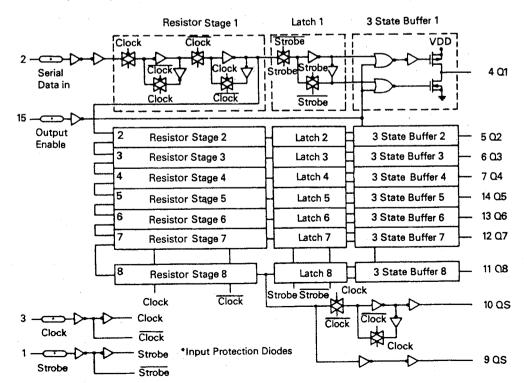
TC9176: IC712



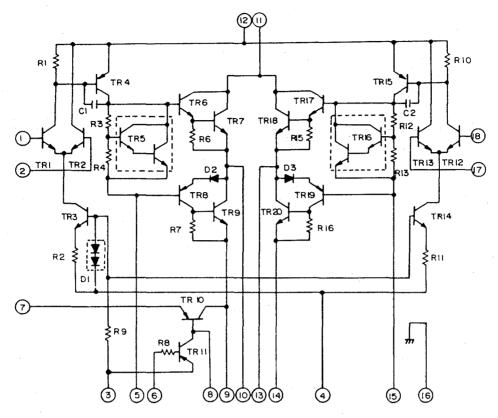




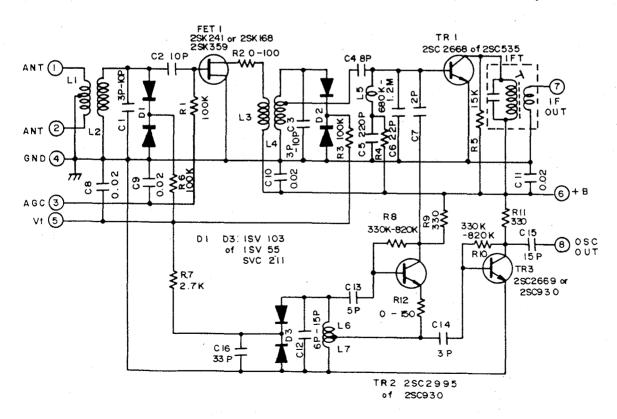
MC 14094B: IC206, IC707, IC708



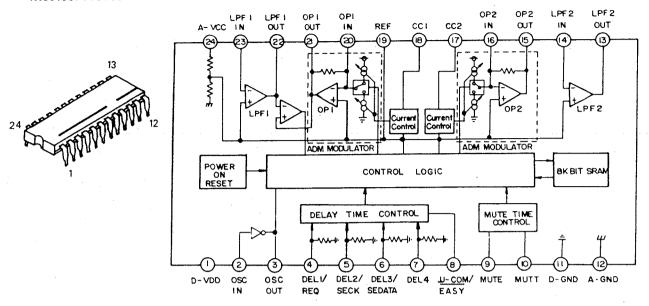
STK 4122 II: IC801



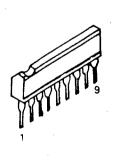
FRONT-END: FE 306-A15 FOR(USA/CANADA/GENERAL EXPORT) Version Only

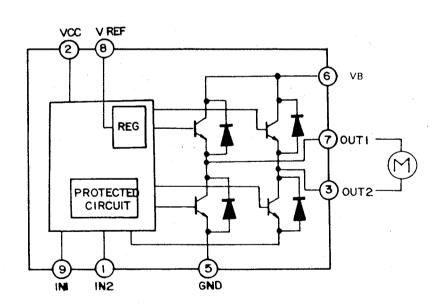


M50198P: IC706



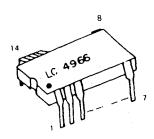
TA7291S: IC301

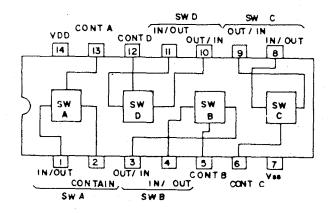




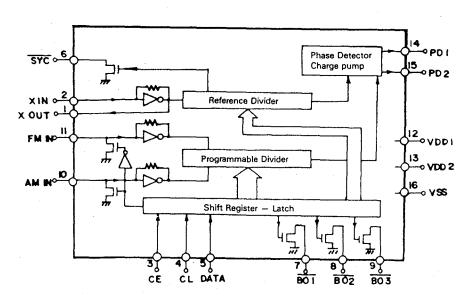
AG-V3020

LC4966: IC704, IC705

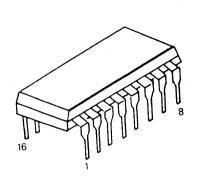


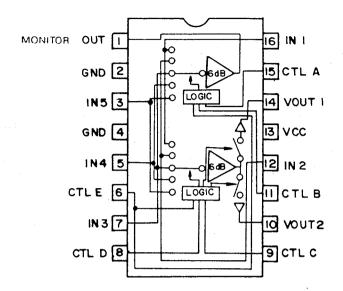


LM7001: IC103 (PLL IC)

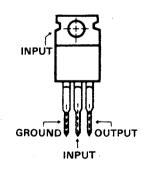


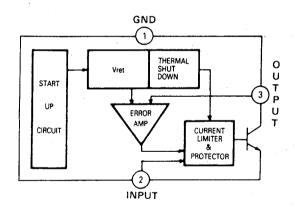
BA7625: 1C205



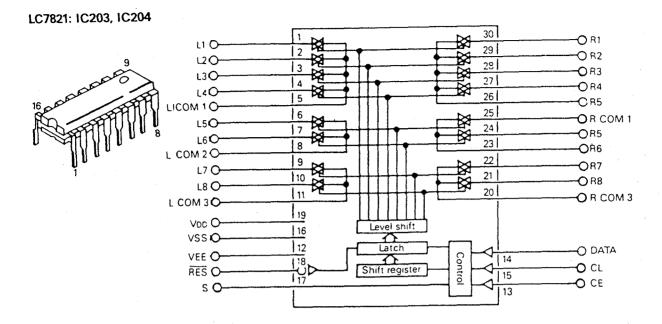


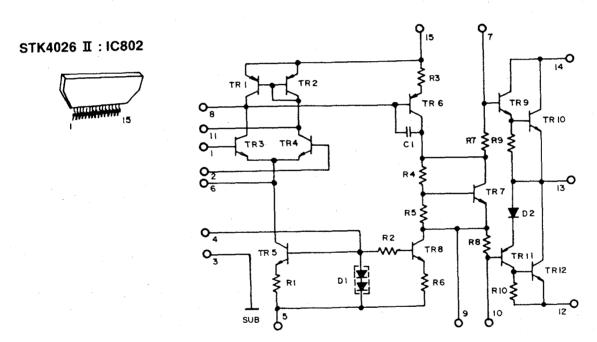
GL7915: IC210

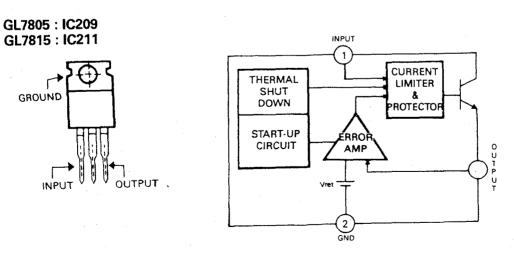




AG-V3020







SSM2126: IC202

0

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Table I. Control States for DM1-DM4

DM2 DM3 DM4 **Operating State** Dolby 4-Channel ('Pro-Logic'), Autobalance On Dolby 4-Channel ('Pro-Logic'), Autobalance Off Dolby 3-Channel ('Dolby 3'), 1 0 Autobalance On Dolby 3-Channel ('Dolby 3'), . 1 0 0 Autobalance Off Surround Channel Noise 0 0 Right Channel Noise 0 0 Center Channel Noise Left Channel Noise 0 Mute 0 0 Х

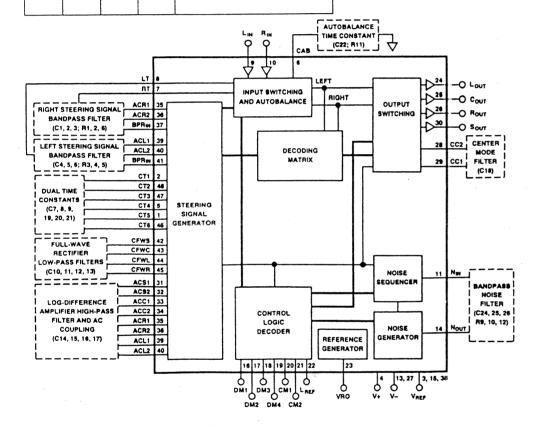
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0

Table II. Center Channel Functional Modes

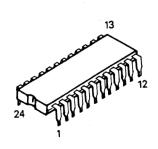
CM1	CM2	Mode
0	0	Center Channel Off
0	1	Center Channel Wideband
1	0	Phantom Center Channel
1	1	Normal Center Mode

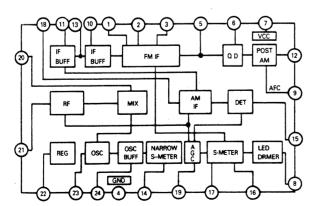


Stereo Bypass, Autobalance On

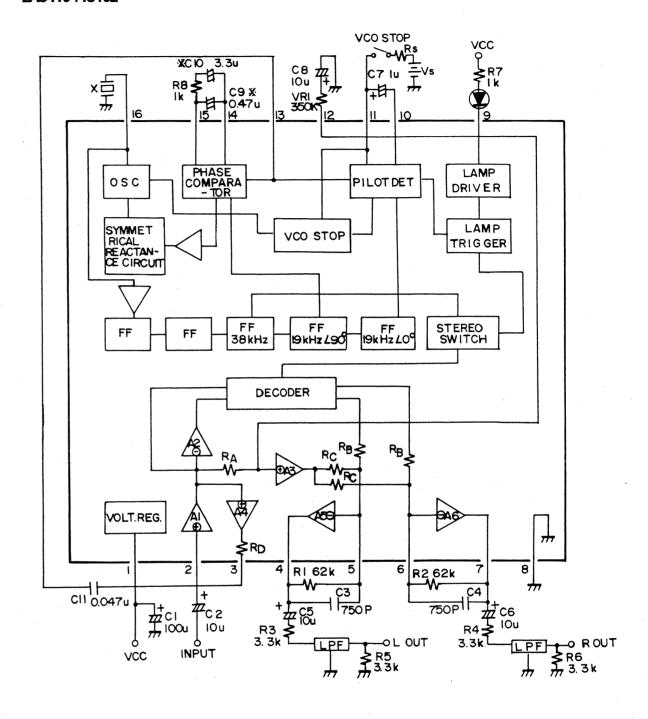
Stereo Bypass, Autobalance Off

LA1266: IC101



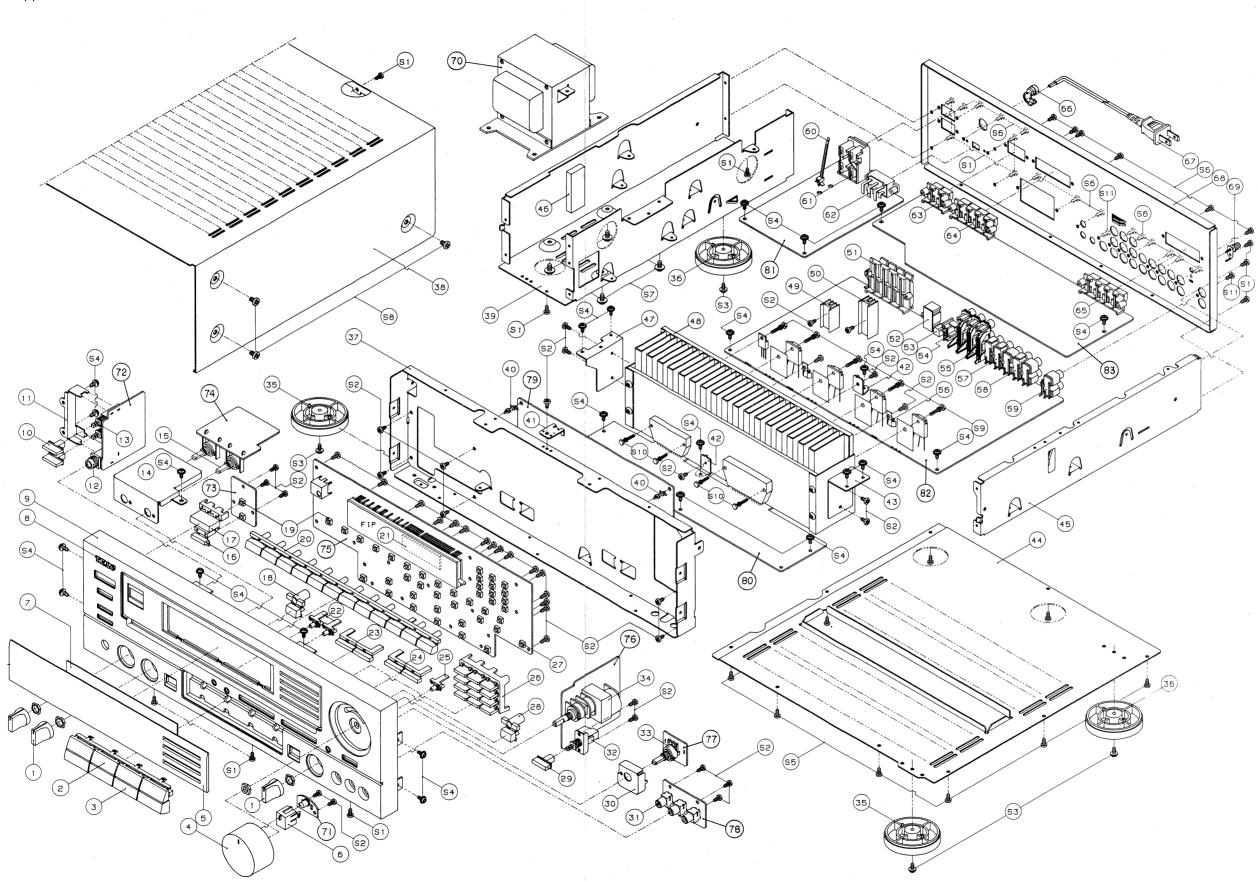


LA3410: IC102



5. EXPLODED VIEW AND PARTS LIST

This section is applicable to the U.S.A./Canada models.



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 2 3 4 5	9A04192300 9A04196200 9A04196300 9A04192400 *9A04195600	KNOB, VR BUTTON, INPUT A BUTTON, INPUT B KNOB, MAIN WINDOW, DISPLAY	
6 7 8 9 10	*9A04192500 *9A04195800 *9A04196000 *9A04195500 9A04197300	INDICATOR FILTER BADGE PANEL, FRONT BUTTON, SPEAKER	
11 12 13 14	*9A04229100 9A04228900 9A04229000 *9A04197500 9A04228100	BRACKET, PCB SPK JACK, PHONE GOLD SW, SPULI9XIM071 SHIELD FENCE, A VR, RK16K12B0Z0114B	
16 17 18 19 20	9A04197200 9A04197100 9A04196900 9A04220300 9A04196100	BUTTON, SLEEP BUTTON, POWER BUTTON, RECORD SW, SKHV10910D01 BUTTON, FUNCTION	
21 22 23 24 25	*9A04303300 9A04196700 9A04196500 9A04196400 9A04196800	SPONGE, FL EVA BUTTON, MODE BUTTON, AM/FM BUTTON, TUNING (BLACK) BUTTON, MUTING (GOLD)	
26 27 28 29 30	9A04196600 9A04303400 9A04197000 9A04197400 *9A04210800	BUTTON, STATION (BLACK) SW, TACT BUTTON, DIRECT BUTTON, LOUDNESS SHIELD FENCE, B	
31 32 33 34 35	9A04210400 9A04229900 9A04210700 9A04229600 9A04192100	JACK, RCA IP SW, PUSH VR, RKI6KI18000114H VR, MOTOR 50KA*4 FOOT, GOLD	
36 37 38 39 40	9A04 92200 *9A04 93700 *9A04 9 1900 *9A04 9 3500 *9A04 9 3800	FOOT, BLACK FRAME, FRONT COVER, TOP FRAME, LEFT FASTENER, KGLS-4S	
4 I 42 43 44 45	*9A04193900 *9A04198200 *9A04197900 *9A04192000 *9A04193600	BRACKET, PCB BRACKET, HEAT SINK BRACKET, HEAT SINK R COVER, BOTTOM FRAME, R	
46 47 48 49 50	*9A04303500 *9A04197800 *9A04197700 *9A04202500 *9A04202600	SPONGE, EVA BRACKET, HEAT SINK L HEAT SINK, POWER HEAT SINK, REG TR HEAT SINK, REG TR	
5 52 53 54 55	9A04200700 9A04202100 9A04202000 9A04201900 9A04201800	TERMINAL, SPEAKER JACK, LGA6502-0150 JACK, LGY6501-0600 JACK, RCA IP JACK, RCA 3P	

REF. NO. PARTS NO.	DESCRIPTION	REMARKS
56 *9A04198300 57 9A04201600 58 9A04201500 59 9A04201700 60 *9A04303600	SPRING HOLDER, STA2170 JACK, RCA 6P JACK, RCA 4P JACK, RCA 2P LOCKING TIE, NYLON	
61 Δ *9A04227200 62 Δ 9A04227300 63 9A04213900 64 9A04213800 65 9A04213700	AC OUTLET, CCTI304-0212 SW, SDKGA4343B (SW601) TERMINAL, SPEAKER 2P TERMINAL, PUSH 4P TERMINAL, PUSH 4P	
66 Δ *9A04194300 67 Δ 9A04194200 68 *9A04194000 69 9A04194100 70 Δ 9A04195200	CORD, STOPPER AC CORD, EHD-0008-266P CHASSIS, BACK TERMINAL, GND POWER TRANS. (TRANS601)	
71 *9A04210900 72 *9A04228700 73 *9A04220400 74 *9A04228000 75 *9A04218000	LED PCB ASSY HEADPHONE PCB ASSY POWER SW PCB ASSY TONE PCB ASSY FRONT PCB ASSY	
76	VOLUME PCB ASSY BALANCE PCB ASSY VCR 2 PCB ASSY SURROUND PCB ASSY BOTTOM PCB ASSY	
81 *9A04226300 82 *9A04199000 83 *9A04211400	POWER PCB ASSY MAIN PCB ASSY TUNER PCB ASSY	
\$1	SCREW, #2BTC3X8B SCREW, #2BTC3X8B SCREW, #2WPTC3X8Y SCREW, #2WPTC3X8Y SCREW, #2BTC3X6B	
\$6	SCREW, #IPT3XIOB SCREW, WSAM M4*8Y SCREW, BSAM M4*8B HEX MSPW 3XI2Y HEX MSPW 3XI6(Y)	
*9A04194400	SCREW, G.N.D.	

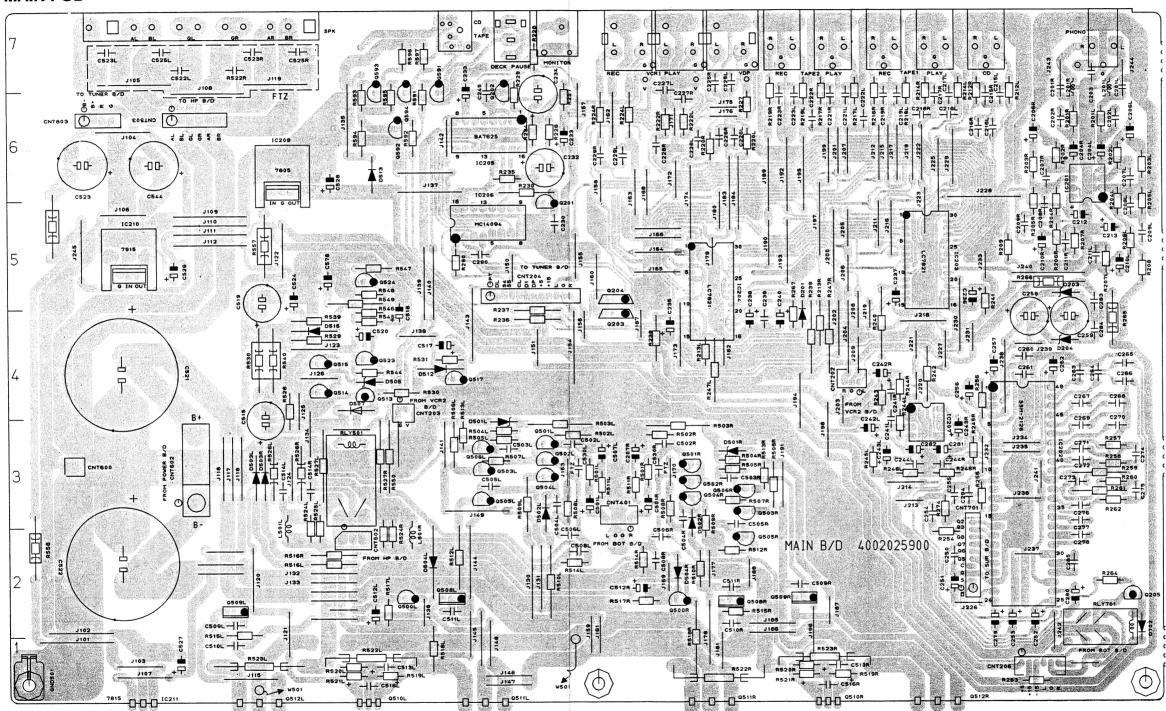
INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*9A04324100	ANTENNA. AM LOOP	
	*9A04326200	ANTENNA, FM 300 OHMS	
÷ †	*9A04191500	REMOCON UNIT, UR-404	
- 1	9A04328200	BATTERRY (AA, RO6, SUM-3)	
	*9A04151100	AG-V3020 OWNER'S MANUAL (E/F)	

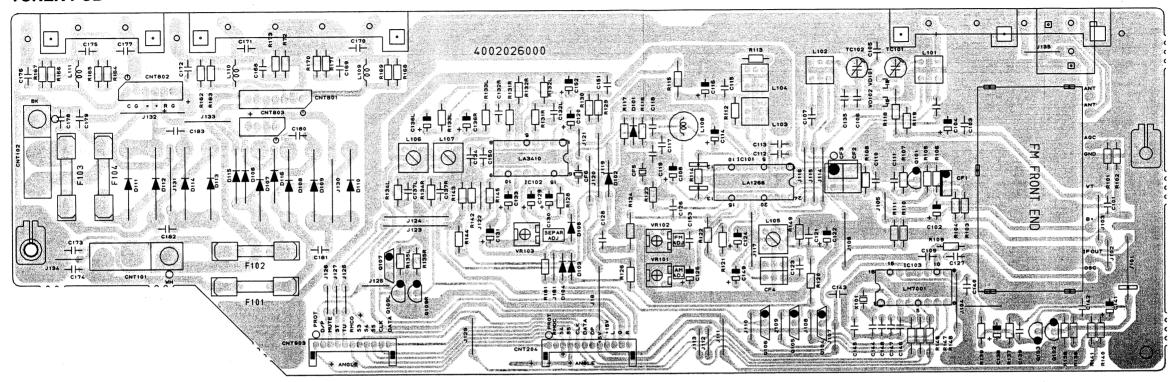
6. PC BOARDS AND PARTS LIST

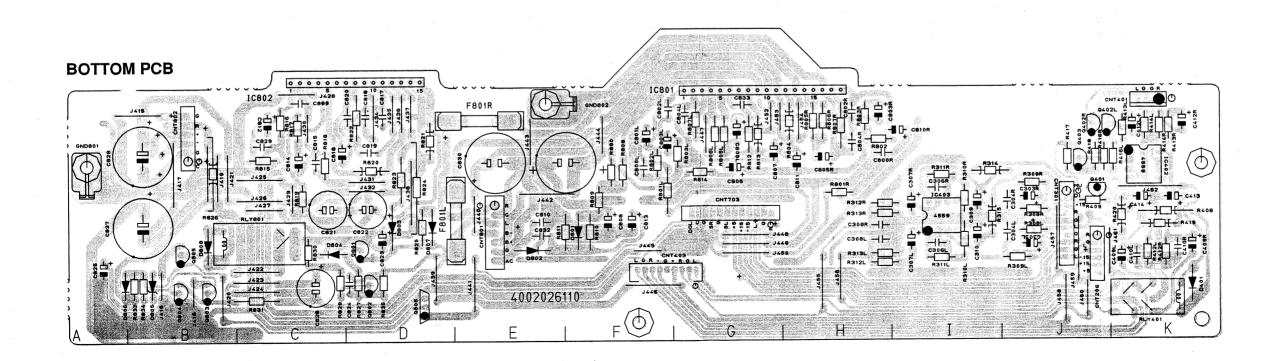
This section is applicable to the U.S.A./Canada models.

MAIN PCB

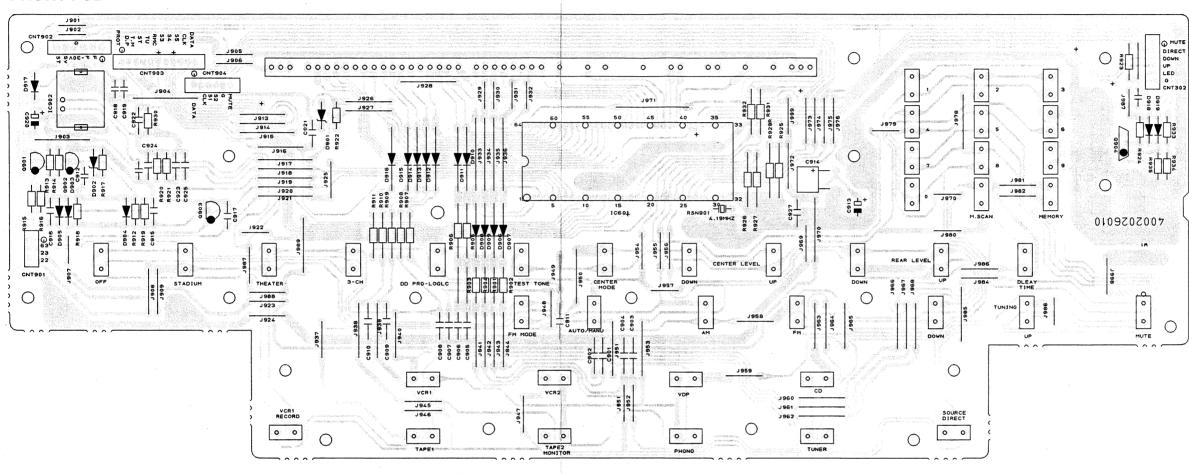


TUNER PCB

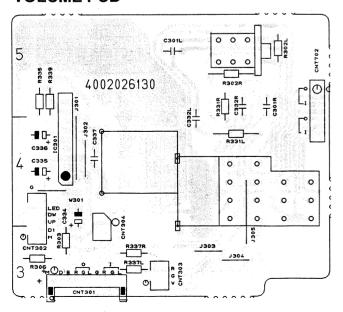




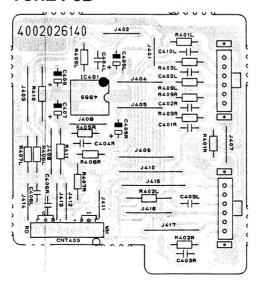
FRONT PCB



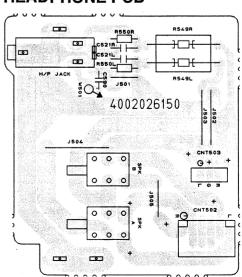
VOLUME PCB



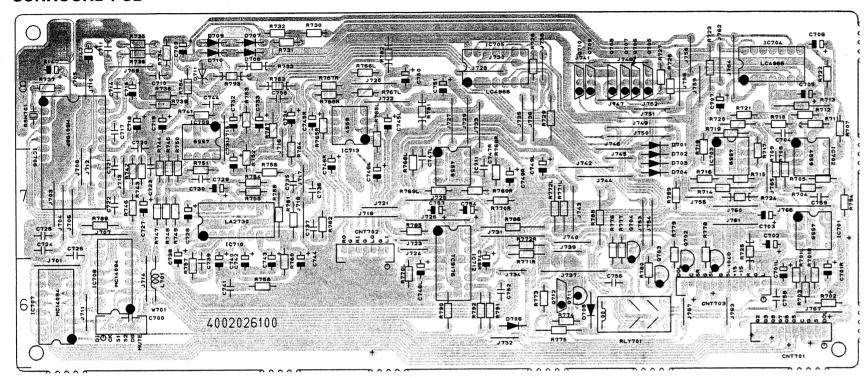
TONE PCB



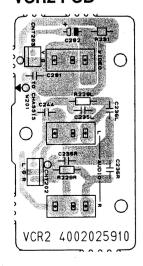
HEADPHONE PCB



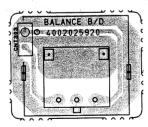
SURROUND PCB



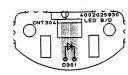
VCR2 PCB



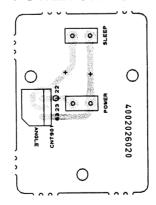
BALANCE PCB



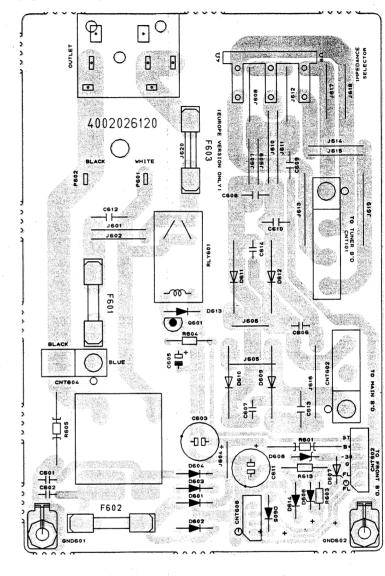
LED PCB



POWER SW PCB



POWER PCB



MAIN PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*9A04199000 *9A04202500 *9A04202600 9A04200700 9A04202100	MAIN PCB ASSY HEAT SINK, REG TR HEAT SINK, REG TR TERMINAL, SPEAKER JACK, LGA6502-0150
	9A04202000 9A04201900 9A04201800 9A04201600 9A04201500	JACK, LGY6501-0600 JACK, RCA IP JACK, RCA 3P JACK, RCA 6P JACK, RCA 4P
C543,544 CNT202 CNT203 CNT204	9A04201700 ▲ 9A04221300 9A04201000 9A04200900 9A04304200	JACK, RCA 2P C, E SG 1000UF/35V M CV CONN., 3P GIL-S-3P-S2T2-E CONN., 2P GIL-S-2P-S2T2-E CONNECTOR ASSY, 12P 100MM
CNT206 CNT404 CNT502 CNT503 CNT600	9A04304400	CONN., 6P GIL-S-6P-S2T2-E CONN., 4P GIL-S-4P-S2T2-E CONNECTOR PLUG, 3P CONNECTOR ASSY, 6P 400MM CONNECTOR, AC IP
CNT602 CNT701 CNT803 D201 D203,204	9A04201300 9A04304500 9A04304600 9A04202800 9A04203600	CONNECTOR, AC 3P CONNECTOR ASSY, IOP 300MM CONNECTOR ASSY, 4P 200MM DIODE, IN4148M DIODE, ZENER UZ 6.2BSB
D501L/R D502L/R D503L/R D504L/R D506	9A04203800 9A04202800 9A04202800 9A04202800 9A04203700	DIODE, ZENER UZ 12.0BSC DIODE, IN4148M DIODE, IN4148M DIODE, IN4148M DIODE, ZENER UZ 15.0BSC
D507 D512 D513 D515 GND501	9A04203500 9A04202800 9A04202800 9A04202800 9A04305300	DIODE, IN4002 DIODE, IN4148M DIODE, IN4148M DIODE, IN4148M PLATE, GROUND IP
IC201 IC202 IC203 IC204 IC205	9A04199800 9A04199500 9A04199600 9A04199600 9A04304700	IC, KIA75559P (KIA4559P) IC, SSM2 126 IC, LC782 I IC, LC782 I IC, BA7625
1C206 1C207 1C209 1C210 1C211	9A04199400 9A04199800 \$\Delta\$ 9A04199900 \$\Delta\$ 9A04200000 \$\Delta\$ 9A04198500	IC, MC14094 IC, KIA75559P (KIA4559P) IC, GD7805 IC, GL7915GS IC, GD7815
L501L/R Q201,202 Q203,204 Q205 Q500L/R	9A04200100 9A04221900 9A04203400 9A04198400 9A04203000	COIL INDUCTOR, 0.5MH TR, KTAIOI5Y TR, DTCII4YS TR, MPSA06 TR, KTCI815Y
Q501L/R Q502L/R Q503L/R Q504L/R Q505L/R	9A04203300 9A04203300 9A04203000 9A04221900 9A04202900	TR, KTC2240BL TR, KTC2240BL TR, KTC1815Y TR, KTA1015Y TR, BKTA949Y
Q506L/R Q508L/R Q509L/R Q510L/R Q511L/R	9A04203200 9A04199300 9A04199200 9A04198400 ▲ 9A04198600	TR, KTC2229Y TR, KSD401Y TR, KSB546Y TR, MPSA06 TR, 2SC3855

Q513 Q514,515 Q517		9A04198700 9A04198400 9A04203000 9A04203000 9A04221900	TR, MPSA06 TR, KTC1815Y	
Q591-594 R265,266 R522L/R	Δ	9A04203000 9A04203000 9A04304900 9A04200400 9A04200400	TR, KTC1815Y R, MF IW 180 J R, CEMENT 5W 0.39	
R526L/R R530 R540 R557 R558	Δ Δ	9A04200200 9A04204100 9A04305100 9A04305200 9A04204300	R, MF IW 22 J R, MF IW 2.2 J R, MF 2W 47 J	
		9A04200200 9A04202400 9A04202300	RELAY, OSA-SS-224DM5	

TUNER PCB ASSY

REF. NO. PARTS NO. DESCRIPTION

	*9A04211400 9A04217900 9A04213900 9A04213800 9A04213700	TERMINAL, SPEAKER 2P
CFI CF4 CF5 CF6 CNTIOI	9A04213300 9A04213200 9A04326000 9A04213600 9A04201300	FILTER, C SFEIO.7MA8 FILTER, C SFZ450B RESONATOR, BFU450C4N RESONATOR, CSB456FII CONNECTOR, AC 3P
CNT801 CNT802 CNT803	9A04214400 9A04200800 9A04214200 9A04214100 9A04214300	CNT, GIL-I2P-S2L2-EF CONNECTOR PLUG, 3P CONNECTOR PLUG, 6P CONNEC. PLUG, 4P (5267-04A) CNT, GIL-IIP-S2L2-EF
DI07-114 DI15/116	9A04202800 9A04203500 ▲ 9A04211500 9A04203500 ▲ 9A04194700	DIODE, IN4148M DIODE, IN4002 DIODE, IN5402 DIODE, IN4002 FUSE, SB 20 3.5A 125V
FEIOI ICIOI	▲ 9A04194600 9A04213500 9A04211800 9A04211900 9A04211700	FUSE, 51S 125V 3A (UL/C) FM, FE306-A15 IC, LA1266 IC, LA3410 IC, LM7001
L101 L102 L103 L104 L105	9A04212000 9A04212100 9A04212300 9A04212400 9A04212500	COIL, AM ANT COIL, AM OSC COIL, FM QUAD DET (A) COIL, QUAD DET(B) FM TOKO COIL, AM IFT P-7SB
L106/107 L109-111 Q101 Q102 Q103	9A04212200 9A04200100 9A04214800 9A04203300 9A04214600	COIL, MPX 19KHZ FB-7SG COIL INDUCTOR, 0.5MH TR, KTC1923Y TAPING TR, KTC2240BL FET, N-CH 2SK168D
TCIOI TCIO2	9A04214700 9A04203000 9A04213000 9A04212900 9A04211600	TR, DTAII4YS TR, KTC1815Y C, TRIMMER TZ03-R200FR 169 C, TRIMMER TZ03-TI10FR 169 DIODE, VARACTOR KV1236Z

VR101 VR103 X101	9A04216300	R, SEMI EVN-DJAA03B54 R, SEMI 220K X'TAL, 7.200MHZ
XIOI	9A04213400	X'IAL, /.200MHZ

BOTTOM PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
C830/831	*9A04220800 9A04217900 \$\Delta\$ 9A04324800 \$\Delta\$ 9A04221400 9A04326800	BOTTOM PCB ASSY FUSE CLIP, PFC5000-0202 C, E SG 2200UF/35V M C, E SG 2200UF/35V CV CONNECTOR ASSY, 6P 260MM
CNT401	9A04327000 9A04326700 9A04327500 9A04327200 9A04326500	CONNECTOR ASSY, 10P 160MM CONNECTOR ASSY, 4P 350MM CONN., 9P GIL-S-9P-S2T2-EF CONNECTOR ASSY, 12P 120MM CONNECTOR ASSY, 7P 450MM
CNT802 D401 D801/802 D803/804 D805	9A04304400 9A04202800 9A04203500 9A04202800 9A04203700	CONNECTOR ASSY, 6P 400MM DIODE, 1N4 148M DIODE, 1N4002 DIODE, 1N4148M DIODE, ZENER UZ 15.0BSC
D808 F801L/R GND801	9A04202800 9A04203500 ▲ 9A04194800 9A04305300 3 9A04199800	DIODE, IN4148M DIODE, IN4002 FUSE, 51M 125V 3A (UL/C) GROUND PLATE, IP IC, KIA75559P (KIA4559P)
IC801 IC802 Q401 Q402L/R Q801	↑ 9A04220900 ↑ 9A04221000 9A04198400 9A04214900 9A04203000	IC, HYBRID STK4026(II) TR, MPSA06 TR, KTDI302B TR, KTCI815Y
Q806 R804 R820/821 R824	9A04203400 ▲ 9A04324300 ▲ 9A04219200 ▲ 9A04221200 9A04221100	TR, DTC 4YS R, CF /4W 0 J R, CF /4W 00 J R, WW CE 3W 0.27 K S R, MF W 47 J
RLY401 RLY801	9A04202300 9A04221700	RELAY, RZI2 RELAY, OSA-SS-224DM3

FRONT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
C914 CNT302	*9A04218000 9A04220300 9A04303400 \$\Delta\$ 9A04218400 9A04218600	SW, TACT
•	9A04327100 9A04218600	CONNECTOR ASSY, 3P 100MM CONNECTOR ASSY, 6P 300MM CONNECTOR ASSY, 11P 400MM CONNECTOR ASSY, 6P 120MM DIODE, ZENER UZ 9.1BSC
D903-917 FIP901 IC901	9A04219000 9A04202800 9A04218200 9A04218100 ▲ 9A04218300	DIODE, ZENER UZ 5.1BSB DIODE, IN4148M FL TUBE FIP 12 LM 8 IC, UPD75216ACW-W42 REMOTE SENSOR, KRM-34L1
Q901 Q902/903 RSN901	9A04203000	TR, PNP KTA817A KEC TR, KTC1815Y RESONATOR, 4.19MHZ

VOLUME PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
CNT301 CNT302	*9A04229400 9A04229900 9A04229600 9A04229800 9A04201200	VOLUME PCB ASSY SW, PUSH VR, MOTOR 50KA*4 CONNECTOR, GIL-10P-S2L2-EF CONN, 6P GIL-S-6P-S2T2-EF
CNT303 CNT304 CNT702 I C30 I	9A04201000 9A04229700 9A04326900 9A04229500	CONN, 3P GIL-S-3P-S2T2-EF CONNECTOR PLUG, 2P CONNECTOR ASSY, 7P 300MM IC, TA729IS

TONE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
CNT403	*9A04228000 9A04228100 9A04228200 9A04199800	TONE PCB ASSY VR, RKI6KI2BOZOII4B CONNECTOR ASSY, 9P 200MM IC, KIA75559P (KIA4559P)

HEADPHONE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*9A04228700 9A04229100 9A04228900 9A04229000	HEADPHONE PCB ASSY BRACKET, PCB SPK JACK, PHONE GOLD SW, SPUL19X1M071
CNT502	9A04326600	CONNECTOR ASSY, 3P 350MM
CNT503 R549L/R	9A04214200 ▲ 9A04229300	CONNECTOR PLUG, 6P R, MF 2W 470 J

SURROUND PCB ASSY

SURROUND PCB ASSY			
	REF. NO.	PARTS NO.	DESCRIPTION
	CNT702 CNT703	*9A04223300 9A04224000 9A04201000 9A04224100 9A04201200	SURROUND PCB ASSY CONN., 10P GIL-S-10P-S2T2E CONN., 3P GIL-S-3P-S2T2-EF CONN., 12P GIL-S-12P-S2T2- CONN., 6P GIL-S-6P-S2T2-EF
	D705 D711 IC701-703	9A04202800 9A04202800 9A04219000 9A04199800 9A04223500	IC, KÍA75559P (KIA4559P)
	1C707,708	9A04223600 9A04199400 9A04199800 9A04223700 9A04199800	IC, MC14094 IC, KIA75559P (KIA4559P)
	1C713 L701 Q701-703	9A04223400 9A04199800 9A04224300 9A04214900 9A04221900	IC, TC9176P IC, KIA75559P (KIA4559P) COIL INDUCTOR, 4.7UH TR, KTD1302B TR, KTA1015Y
	Q708/709	9A04214700 9A04203400 9A04214700 9A04203400 9A04198400	TR, DTAII4YS

Q712 RSN701

9A04203400 TR, DTC114YS 9A04223800 RESONATOR, CST3.27MGW

POWER PCB ASSY

REF. NO. PARTS NO.	DESCRIPTION
*9A04226300 9A04217900 9A04220300 \triangle *9A04227200 SW601 \triangle 9A04227300	FUSE CLIP, PFC5000-0202 SW, SKHV10910D01 AC OUTLET, CCT1304-0212
CNT602 9A04327600 CNT604 9A04227000 CNT606 9A04327300 CNT902 9A04200800 D601-604 \(\Delta \) 9A04203500	CONNECTOR PLUG, 3P
D605 9A04203500 D606 9A04227600 D607/608 9A04203700 D609-612 \Delta 9A04226400 D613/614 9A04203500	DIODE, ZENER UZ 15.0BSC DIODE, RECTIFIER PX6A03
F601 Δ 9A04194900 F602 Δ 9A04327700 Q601 9A04324000 R601 Δ 9A04324200 R605 Δ 9A04324400	FUSE, SLW-BLW 125V 315MA
RLY601	

VCR 2 PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION	
CNT202 CNT203	9A04210400 9A04305400	VCR 2 PCB ASSY JACK, RCA IP YKBII-0868 CONNECTOR ASSY, 3P 400MM CONNECTOR ASSY, 2P 500MM	

BALANCE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION	
CNT303	*9A04210600 *9A04210800 9A04210700 9A04305600	BALANCE PCB ASSY SHIELD FENCE, B VR, RK16K118000114H CONNECTOR ASSY, 3P 200MM	

LED PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION	
CNT304 D301	9A04211100	LED PCB ASSY CNT MO 5264 #28 180DL LED, SLR54UR3 LED	

POWER SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION	
CNT901		POWER SW PCB ASSY CONNECTOR PLUG, 3P ANGLE	

AG-V3020

МЕМО

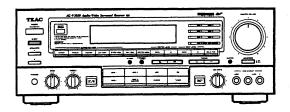
MEMO

AG-V3020

TEAC

TEAC CORPORATION	Musashino Center Bldg.,1-19-18, Nakacho, Musashino-shi, Tokyo 180, Japan	Phone:(0422)52-5081
TEAC AMERICA, INC.	7733 Telegraph Road, Montebello, California 90640	Phone:(213)726-0303
TEAC CANADA LTD.	340 Brunel Road, Mississauga, Ontario L4Z 2C2, Canada	Phone:416-890-8008
TEAC UK LIMITED	5 Marlin House, Marlins Meadow, The Croxley Centre, Watford, Herts. WD1 8YA, U.K.	Phone:0923-819631
TEAC DEUTSCHLAND GmbH	Bahnstrasse 12, 6200 Wiesbaden-Erbenheim, Germany	Phone:0611-71580
TEAC FRANCE S.A.	17, Rue Alexis-de-Tocqueville, CE 005 92182 Antony Cedex, France	Phone:(1)42.37.01.02
TEAC BELGIUM NV/SA	143C Woluwelaan, 1831 Machelen-Diegem, Belgium	Phone:(02)725-6555
TEAC NEDERLAND BV	Perkinsbaan 11, 3439 ND Nieuwegein, Nederland	Phone:03-402-30229
TEAC AUSTRALIA PTY., LTD. A.C.N. 005 408 462	106 Bay Street, Port Melborne, Victoria 3207, Australia	Phone:(03)646-1733
TEAC ITALIANA S.p.A.	Via C. Cantù 5, Cinisello Balsamo, Milano, Italy	Phone:02-66010500

TEAC



SERVICE MANUAL

AG-V3020

Audio/Video Surround Receiver

SUPPLEMENT

Please use this Supplement together with the original AG-V3020 Service Manual (Parts No.: 5704064400).

NOTES ON PARTS LIST

- Except for parts information on pages 3 and 4 in the Supplement, the original manual's all the parts information are applicable to four versions (US, C, E, and GE).
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.

 [J]: JAPAN [US]: U. S. A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U. K. [A]: AUSTRALIA

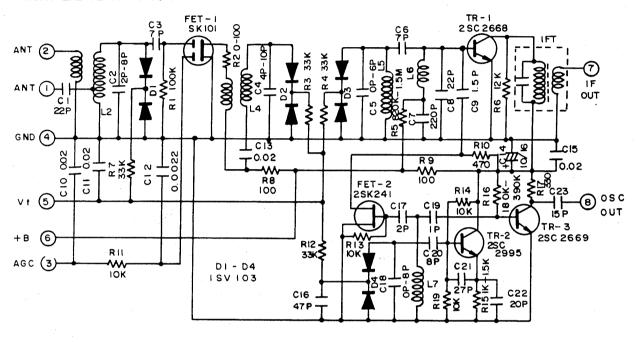
Effective: July, 1993 5704066300

2. ADJUSTMENTS AND CHECKS

The original manual's all "Adjustments and Checks" information about General Export models is also applicable to Europe models.

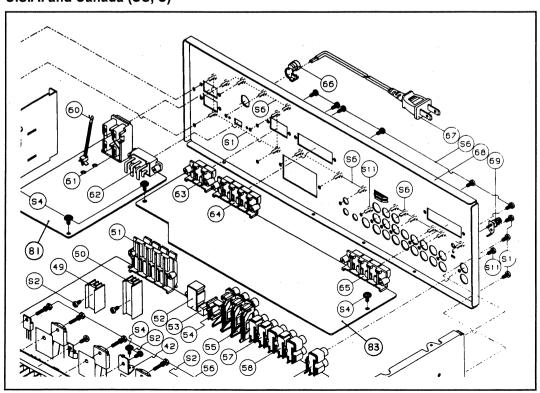
4. IC BLOCK DIAGRAMS

FRONT END: FE 407-G60 (FOR EUROPE. VERSION ONLY)

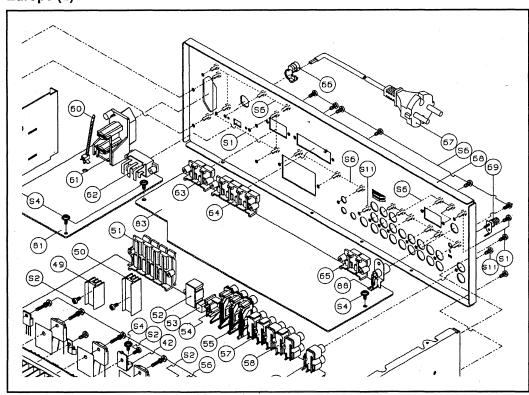


5. EXPLODED VIEW AND PARTS LIST

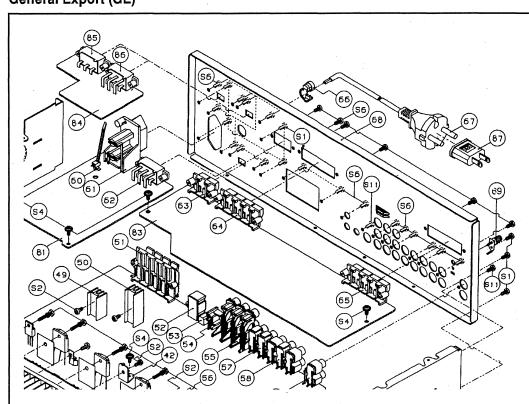
U.S.A. and Canada (US, C)



Europe (E)



General Export (GE)



REF.	NO. PARTS NO.	DESCRIPTION	REMARKS
44	*9A04192000 *9A04541500	COVER, BOTTOM [US,C] COVER, BOTTOM [E.GE]	
61	↑ *9A04541500 ↑ *9A04227200 ↑ *9A04544800	AC OUTLET [US,C,GE] AC OUTLET [E]	
62	△ 9A04544900 △ 9A04544900	SW, SLIDE (SW601) [US,C,GE] SW, SLIDE (SW601) [E]	
65		TERMINAL, PUSH 4P [US,C,GE]	
66	↑ *9A04194300	TERMINAL, ANTENNA [E] CORD, STOPPER [US,C]	
67	⚠ *9A04545500⚠ 9A04194200⚠ 9A04544200	CORD, STOPPER [E,GE] AC CORD [US,C] AC CORD [E,GE]	
68	*9A04194000	CHASSIS, BACK [US,C]	
	*9A04541400 *9A04548200	CHASSIS, BACK [GE] CHASSIS, BACK [E]	
70	♠ 9A04542100	POWER TRANS. (TRANS601) [US,C] POWER TRANS. 230V/50Hz (TRANS601)[E] POWER TRANS. 120V/230V (TRANS601)[GE]	
81		POWER PCB ASSY [US,C]	
	*9A04226320 *9A04226350	POWER PCB ASSY [E] POWER PCB ASSY [GE]	
83	*9A04211400 *9A04211420	TUNER PCB ASSY [US,C] TUNER PCB ASSY [E]	
	*9A04211450	TUNER PCB ASSY [GE]	
84	*9A04540900	SELECTOR PCB ASSY [GE]	
85 86	9A04546600 9A04544900	SW, SLIDE [GE] SW, SLIDE [GE]	
87 88	9A04544600 9A04540800	ADAPTER, AC PLUG [GE] JACK, ANTENNA [E]	INCLUDED ACCESSORY

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*9A04324100 *9A04326200 *9A04544300 *9A04546300 *9A04191500	ANTENNA, AM LOOP ANTENNA, FM 300 OHMS [US,C] ANTENNA, FM [E] ANTENNA, FM [GE] REMOCON UNIT, UR-404	
87	9A04328200 *9A04151100 *9A04446700 *9A04544700 *9A04544600	BATTERRY (AA, RO6, SUM-3) OWNER'S MANUAL, ENG./FRE. OWNER'S MANUAL, GERMAN [E] MATCHING TRANS., [E] ADAPTER, AC PLUG [GE]	

6. PC BOARDS AND PARTS LIST

TUNER PCB ASSY

TOTAL TO THE TOTAL						
REF. NO.	PARTS NO.	DESCRIPTION				
83	*9A04211400 *9A04211420 *9A04211450 9A04217900 9A04213900	TUNER PCB ASSY [US,C] TUNER PCB ASSY [E] TUNER PCB ASSY [GE] FUSE CLIP, PFC5000-0202 TERMINAL, SPEAKER 2P				
64 65	9A04213800 9A04213700 9A04540700 9A04540800 9A04213300	TERMINAL, SPEAKER 4P TERM., ANTENNA 4P [US,C,GE] TERMINAL, ANTENNA[E] JACK, ANTENNA [E] FILTER,C SFEIO.7MA8 [US,C]				
CF1,2 CF4	9A04544000 9A04213200 9A04326000 9A04213600 9A04201300	FILTER, 10.7MS3G [E,GE] FILTER, C SFZ450B RESONATOR, BFU450C4N RESONATOR, CSB456F11 CONNECTOR, AC 3P				
CNT102 CNT204 CNT801 CNT802 CNT803	9A04201300 9A04214400 9A04200800 9A04214200 9A04214100	CONNECTOR, AC 3P CNT, GIL-12P-S2L2-EF CONNECTOR PLUG, 3P CONNECTOR PLUG, 6P CON.PLUG, 4P(5267-04A)				
DI01-105 DI06	9A04214300 9A04202800 9A04203500 9A04211500 9A04203500	CNT, GIL-11P-S2L2-EF DIODE, IN4148M DIODE, IN4002 DIODE, IN5402 DIODE, IN4002				
F101/102 A F103/104 A F103/104 A	9A04194700 9A04545300 9A04194600 9A04545300 9A04213500	FUSE, SB 20 3.5A 125V[US,C] FUSE, T3.15/250V [E,GE] FUSE, 51S 125V 3A [US,C] FUSE, T3.15/250V [E,GE] FM, FE306-A15 [US,C,GE]				
IC101 IC102	9A04544100 9A04211800 9A04211900 9A04211700 9A04212000	FM,FE407-G60 FRONT END [E] IC, LA1266 IC, LA3410 IC, LM7001 COIL, AM ANT				
L103 L104 L105	9A04212100 9A04212300 9A04212400 9A04212500 9A04212200	COIL, AM OSC COIL, FM QUAD DET (A) COIL, QUAD DET(B) FM COIL, AM IFT P-7SB COIL, MPX 19KHZ FB-7SG				
L108 L109-111 Q101 Q102 Q103	9A04542000 9A04200100 9A04214800 9A04203300 9A04214600	INDUCTOR, 20.8MH [E] COIL INDUCTOR, 0.5MH TR, KTC1923Y TR, KTC2240BL FET, N-CH 2SK168D				
TC101 TC102	9A04214700 9A04203000 9A04213000 9A04212900 9A04211600	TR, DTAI14YS TR, KTC1815Y C, TRIMMER TZ03-R200FR 169 C, TRIMMER TZ03-T110FR 169 DIODE, VARACTOR KV1236Z				
VR101,102 VR102 VR103 X101	9A04216400 9A04542900 9A04216300 9A04213400	VR, SEMI 50K EVN-DJAA03B54 VR, SEMI 100K [E] VR, SEMI 220K X'TAL, 7.200MHZ				

POWER PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
81 81 81	*9A04226300 *9A04226320 *9A04226350 9A04217900 9A04220300	POWER PCB ASSY [US,C] POWER PCB ASSY [E] POWER PCB ASSY [GE] FUSE CLIP, PFC5000-0202 SW, SKHV10910D01
61	<u>^</u> *9A04227200 <u>^</u> *9A04544800 <u>^</u> 9A04227300 <u>^</u> 9A04544900 9A04327600	AC OUTLET [US,C,GE] AC OUTLET [E] SW,SLIDE (SW601) [US,C,GE] SW, SLIDE (SW601)[E] CONNECTOR, AC 3P
CNT604 CNT605	9A04195100 9A04227000 9A04546400 9A04544400 9A04327300	CNT, KST 0316LV UL#18 [E] CONNECTOR PLUG, AC S-2 2P ASSEMBLY 2P 180MM [GE] ASSEMBLY 3P 160MM [GE] CONNECTOR PLUG, 4P
D601-604 A D605 D606	9A04200800 9A04203500 9A04203500 9A04227600 9A04203700	CONNECTOR PLUG, 3P DIODE, IN4002 DIODE, IN4002 DIODE, ZENER UZ 7.5BSC D.,ZENER UZ 15.0BSC[US,C,E
D613 D613/614 F601	↑ 9A04226400 9A04203500 9A04203500 ↑ 9A04194900 ↑ 9A04545100	DIODE, RECTIFIER PX6A03 DIODE, IN4002 [E,GE] DIODE, IN4002 [US,C] FUSE, 5IS 125V 6.3A [US,C] FUSE,T.LAG 6.3A/250V[GE]
F602 2	↑ 9A04545300 ↑ 9A04327700 ↑ 9A04545000 ↑ 9A04545200 9A04198400	FUSE, T3.15/250V [E] FUSE, 125V 315MA [US,C FUSE,T.LAG 315MA/250V[E,GE FUSE,TIME LAG 2.5A/250V[E] TR, MPSA06 [E,GE]
RLY601	9A04324000 Δ 9A04324200 Δ 9A04324400 Δ 9A04327800 Δ 9A04226500	TR, MPS A06 [US,C] R, MF 2W 22 J R, CF 1/5W 3.3M J RELAY,OSZ-SS-112DM8[US,C,E TRANS., RV5010R/A [US,C]
	↑ 9A04542200 ↑ 9A04546100	TRANS., 230V/50HZ [E] TRANS., 120V/230V [GE]

SELECTOR PCB ASSY [GE ONLY]

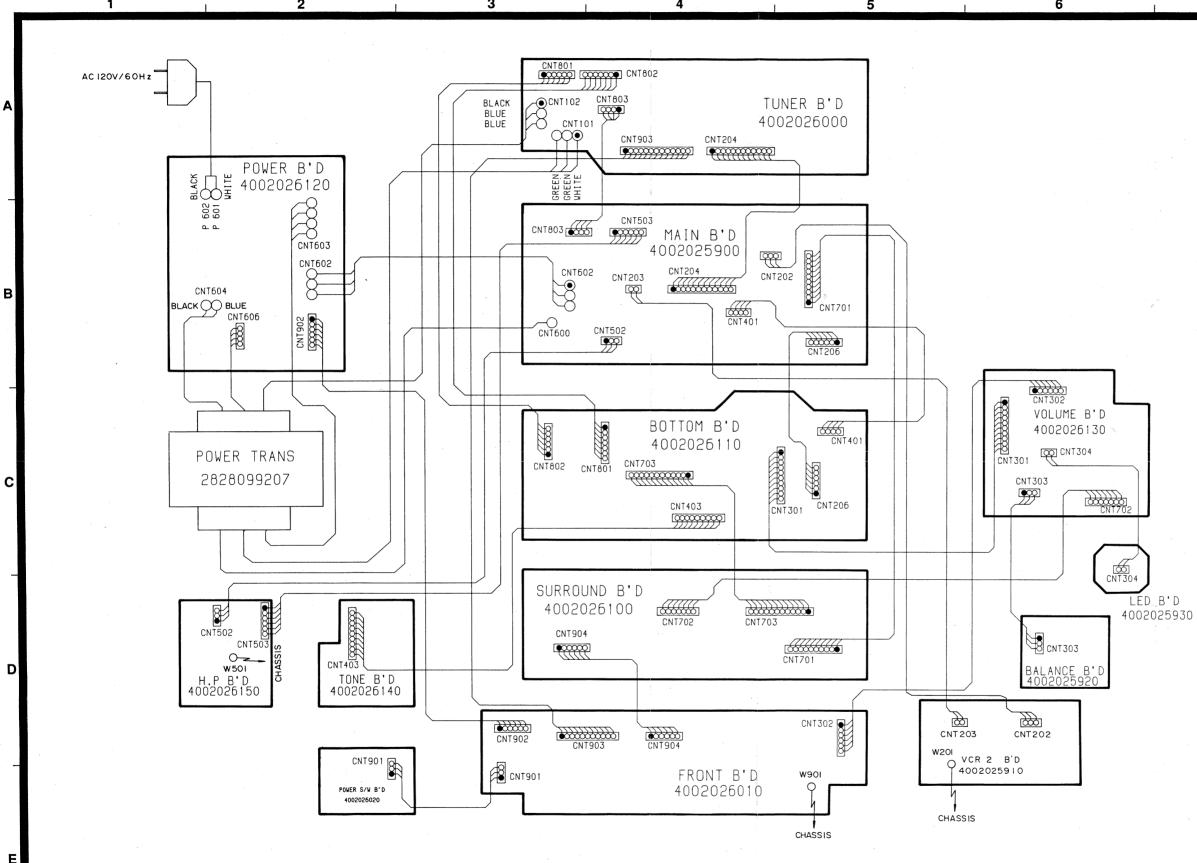
REF. NO.	PARTS NO.	DESCRIPTION
84	*9A04540900	SELECTOR PCB ASSY
	9A04217900	FUSE CLIP, PFC5000-0202
85	9A04546600	SW. SLIDE
86	9A04544900	SW, SLIDE
CNT604	9A04227000	CONN. PLUG, AC S-2 2P
CNT605	9A04201300	CONNECTOR, AC 3P
CNT607	9A04546500	WAFER, AC 5P
F604	9A04545300	FUSE. T3.15/250V

AG-V3020

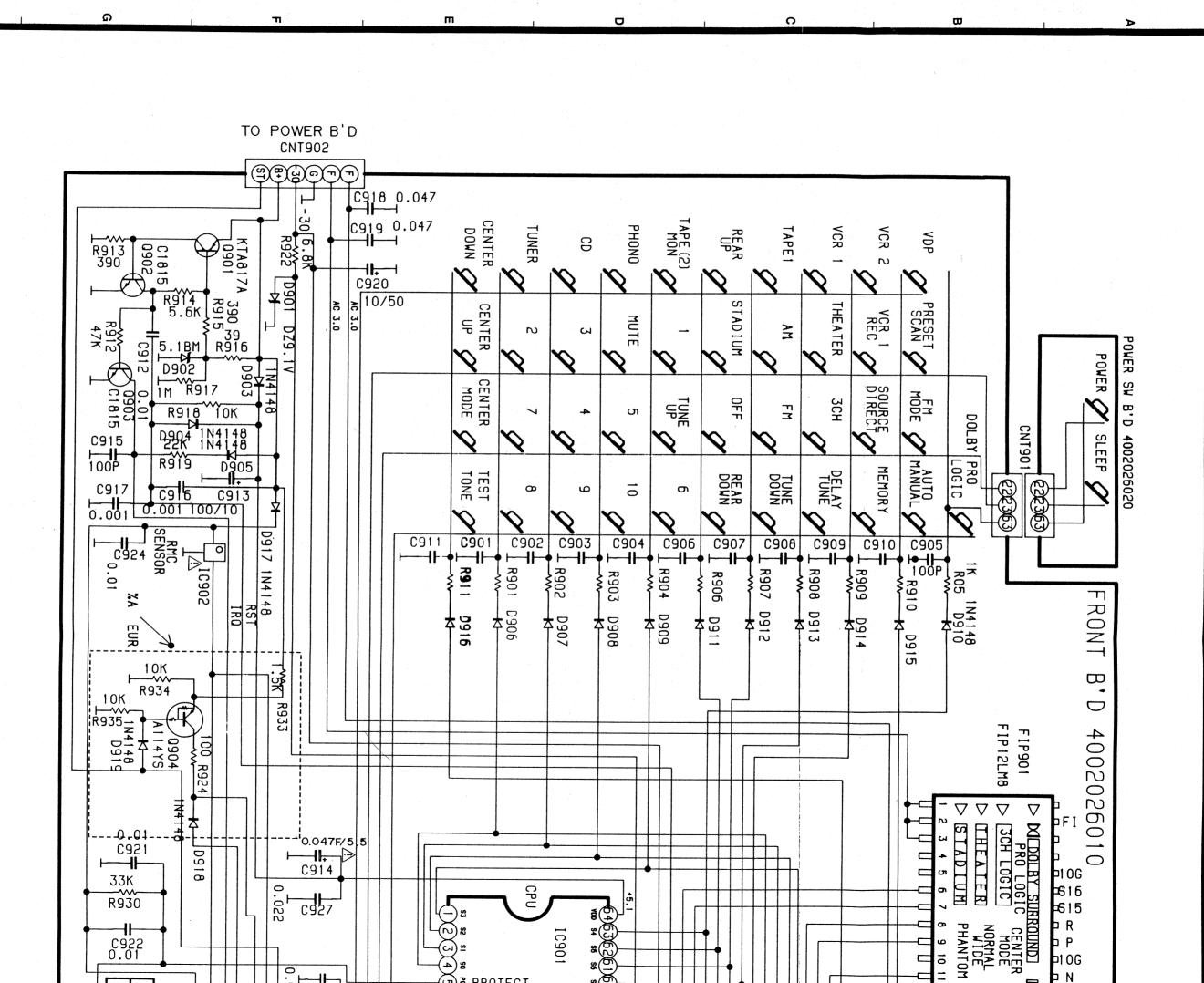
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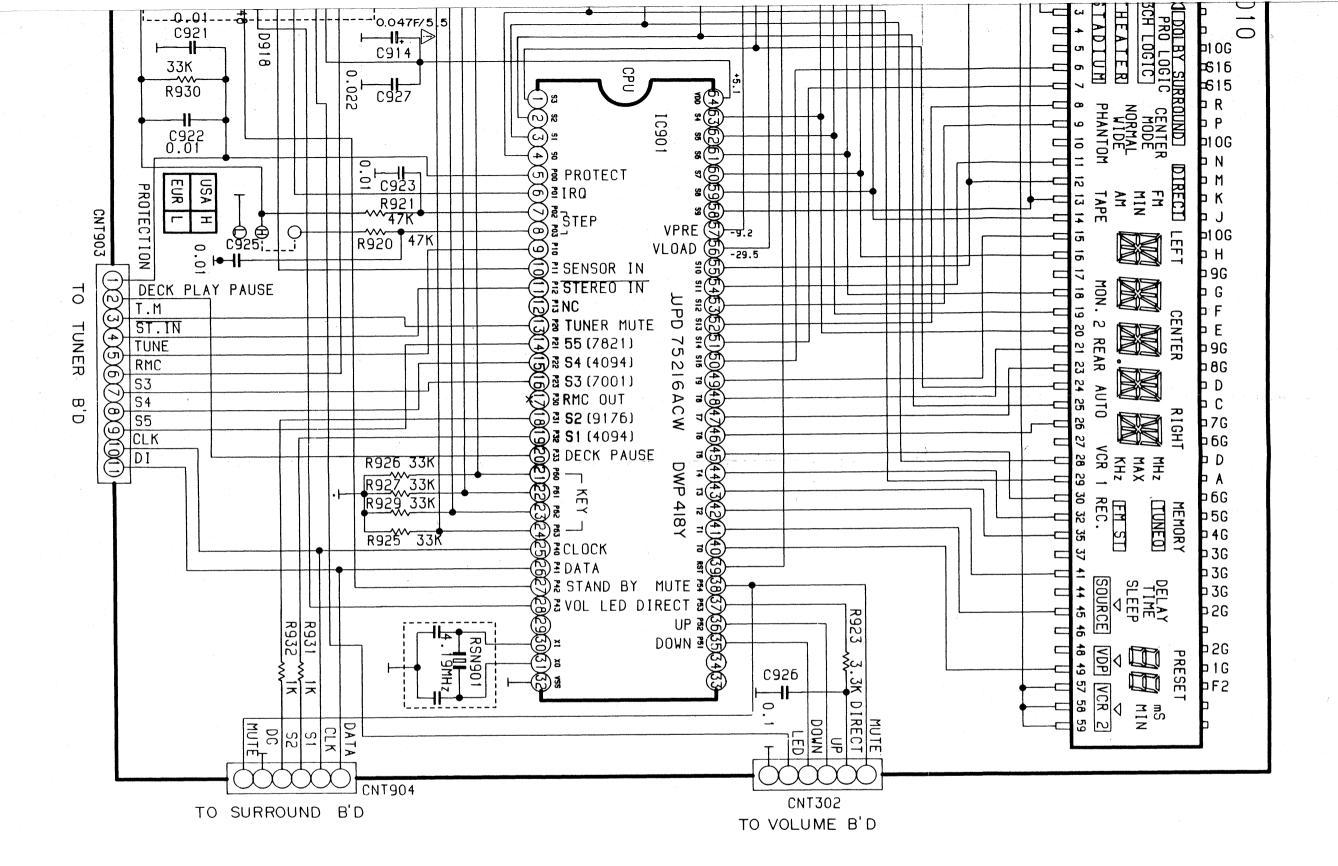
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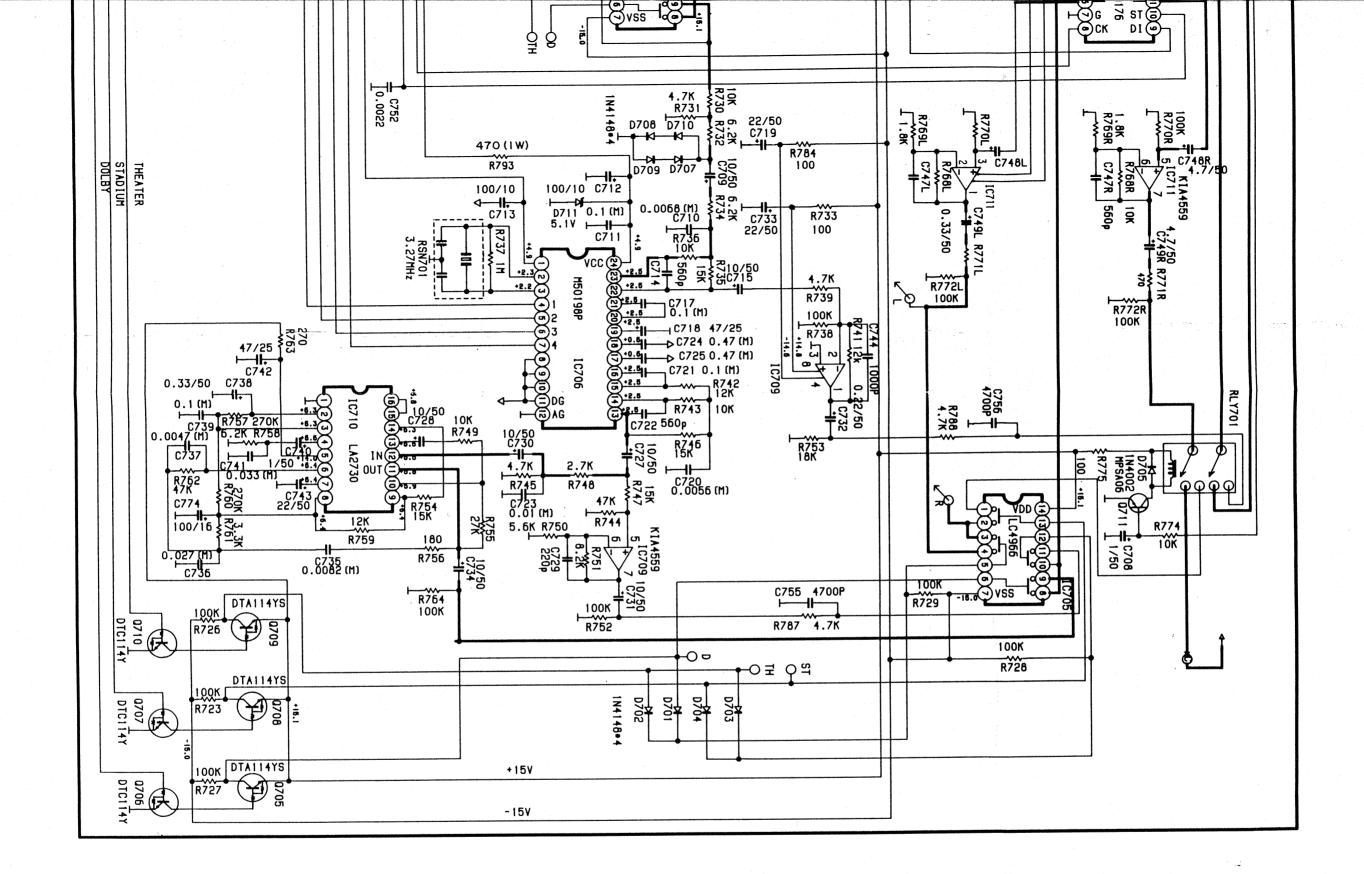
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SCHEMATIC DIAGRAM

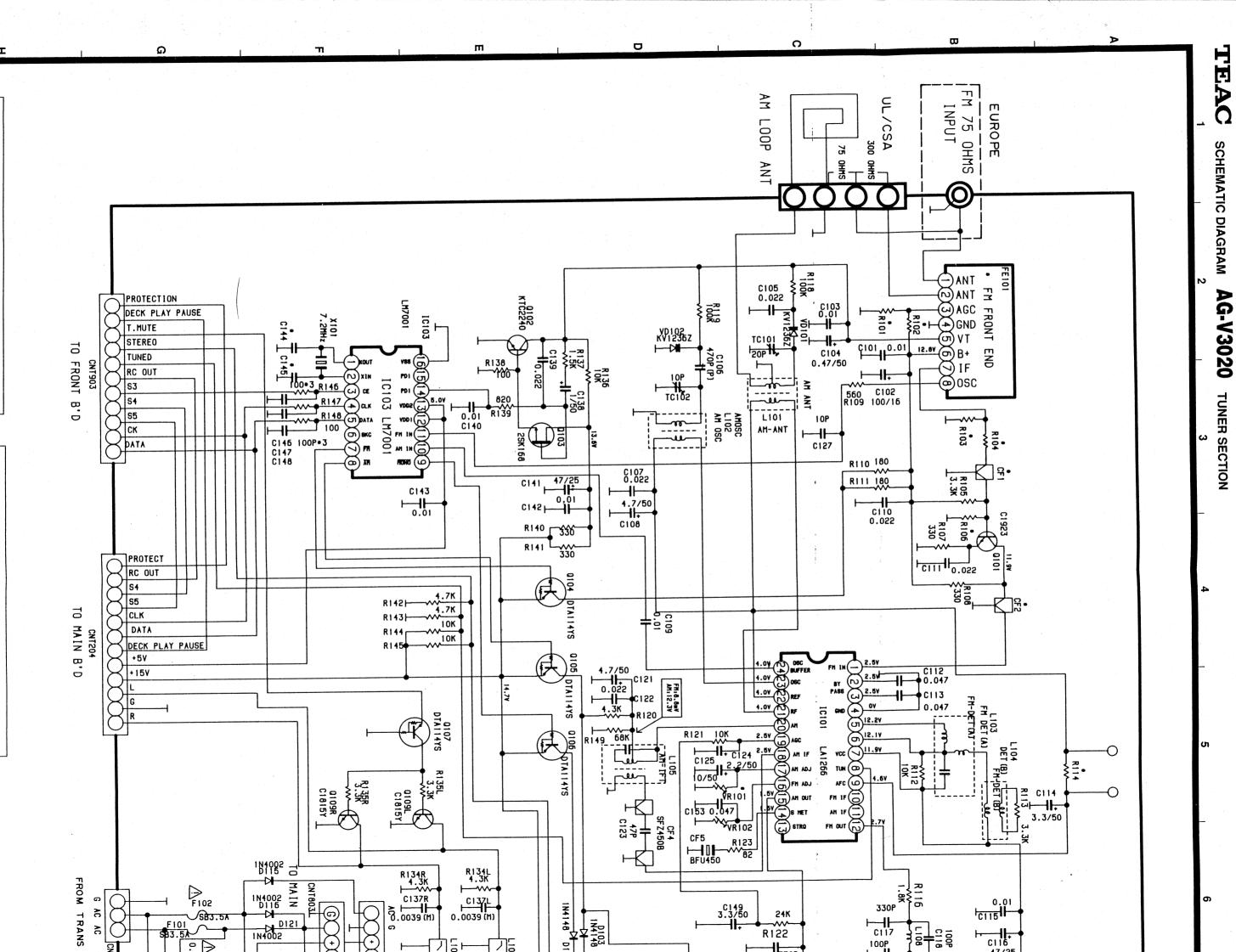
AG-V3020

SURROUND SECTION

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGECURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED
PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

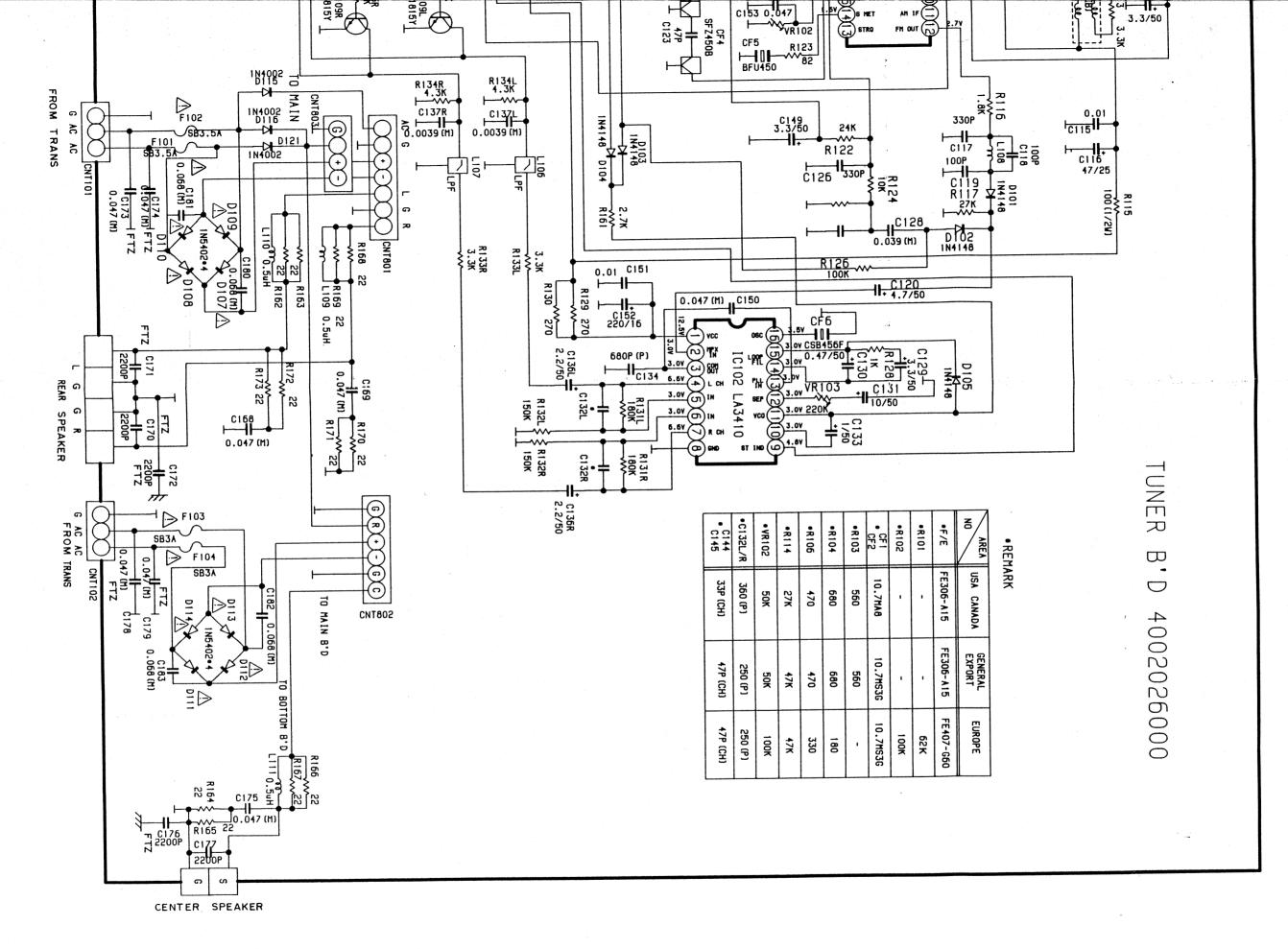


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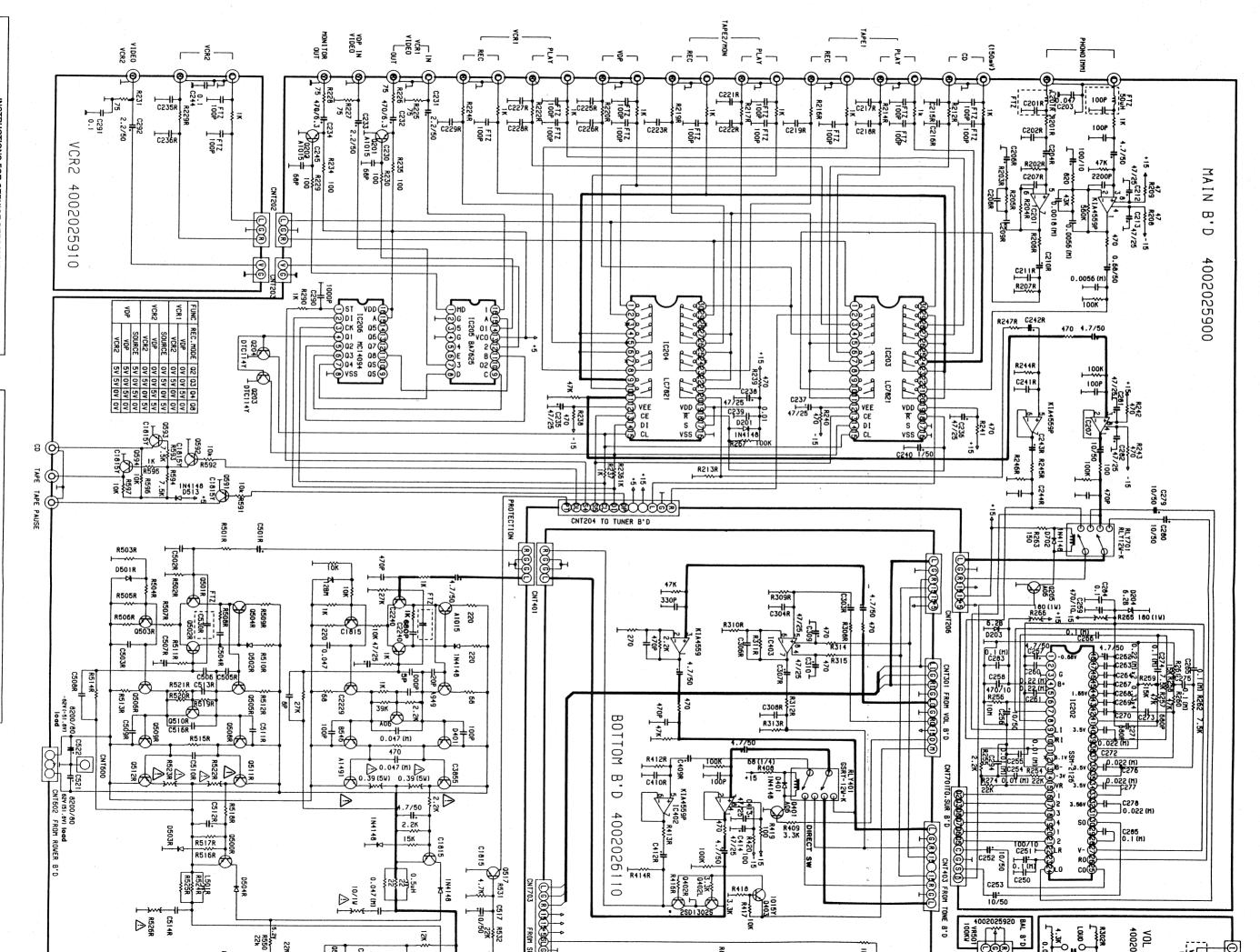


INSTRUCTIONS FOR SERVICE PERSONNEL BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

 $\pmb{\Delta}$ Parts marked with this sign are safety critical components. They must always be replaced with idential components - refer to the TEAC paret list and ensure exact replacement.

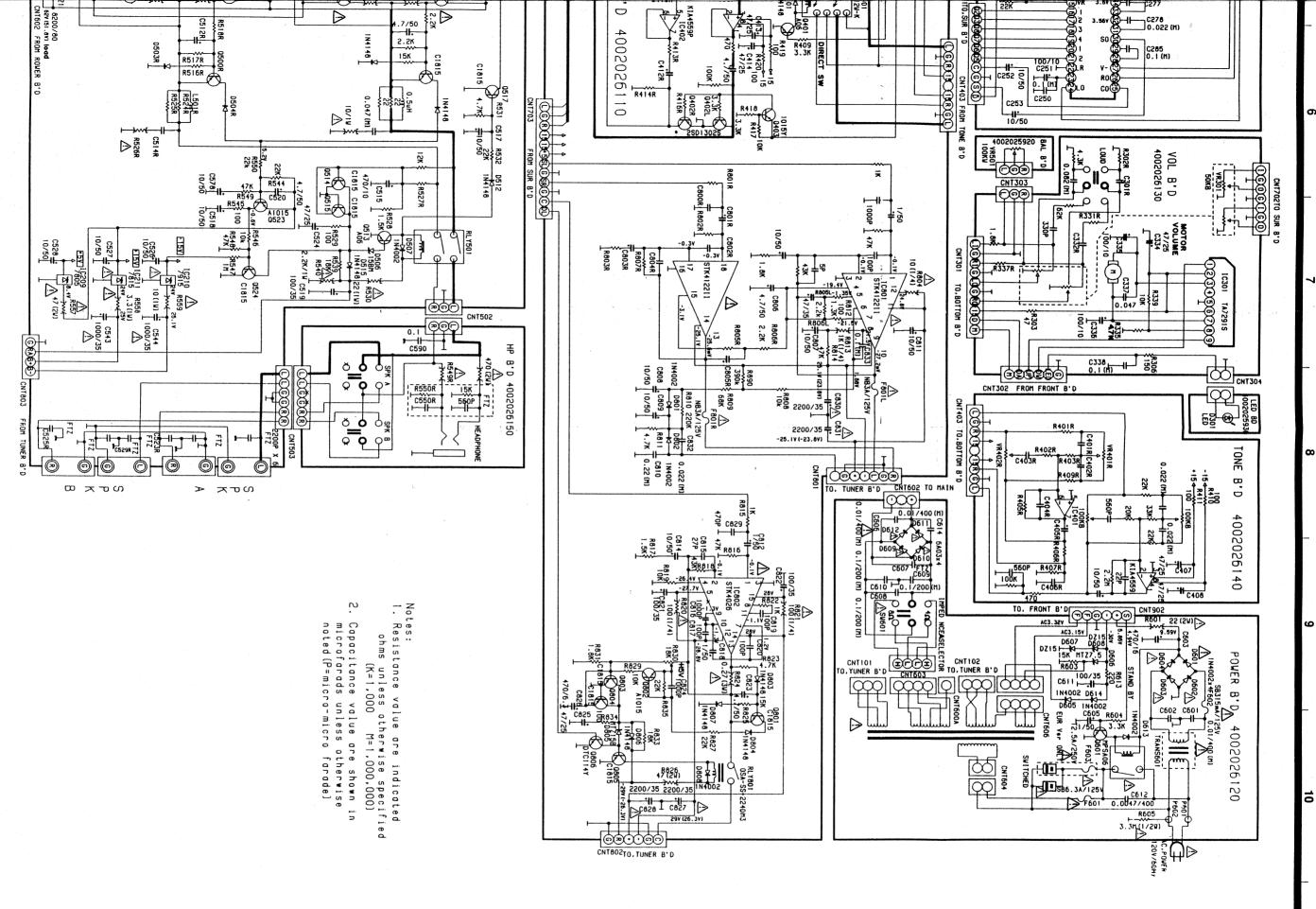


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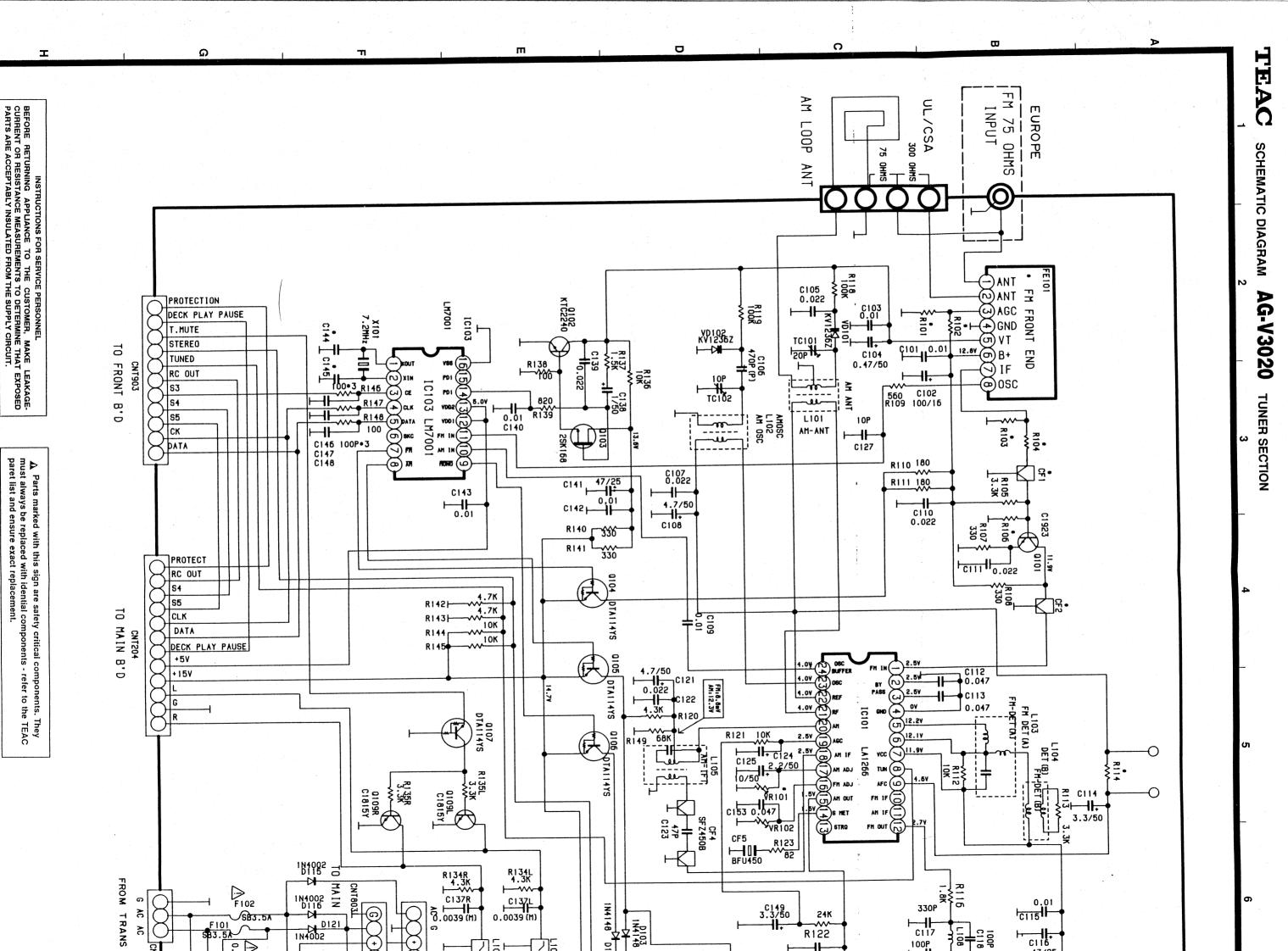


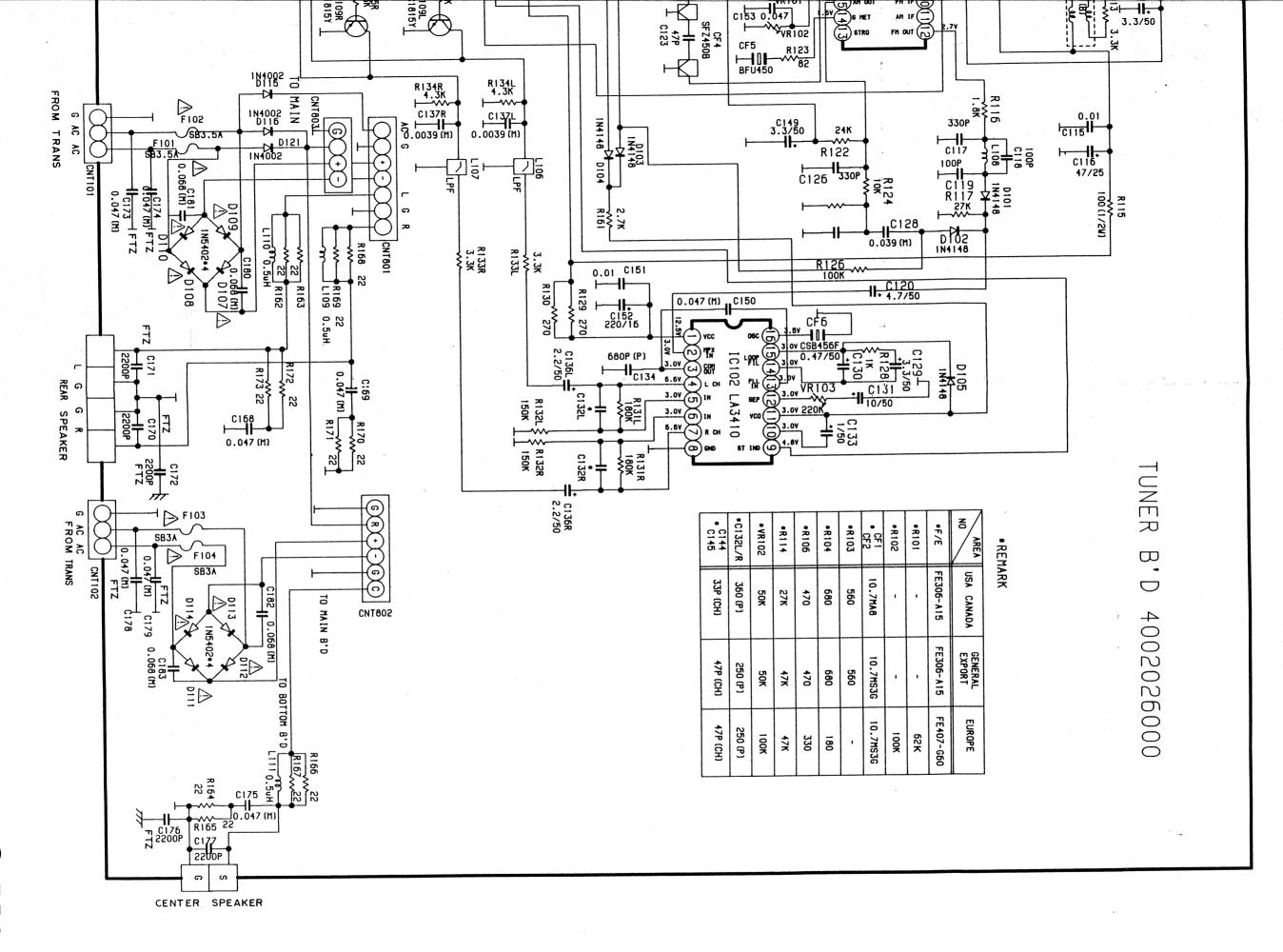
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